Ministry of Food, Agriculture and Fisheries
Danish Institute for Fisheries Research

Danish National Programme for collection of fisheries data for 2007

by

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1. Introduction

1.1 General framework

This document presents the Danish Programme for collection of data in the fisheries sector in 2007. The programme has been developed in accordance with the rules laid down in the *"Commission Regulation (EC) No 1581/2004 amending Commission Regulation (EC) N^0 1639/2001 of establishing the Minimum and Extended Community Programmes for the collection of data in the fisheries sector and laying down detailed rules for the application of Council Regulation (EC) N^0 1543/2000"*, hereafter in this programme called the "DCR".

There are no major technical and substantial changes in the NP-2007 compared with the NP-2006. The changes between the programmes for the two years are caused by the new Guidelines for the submission of the National Programme Proposals.

1.2 General description of the fisheries

This section gives a brief overview of the Danish fishery.

Fleet size and fleet segments

In 2005 (31/12-2005) 3,275 vessels are registered in the Danish vessel register database (see Text table 1).

Vessel type	No vessels	GT tonnage	Kilowatts
Netters	2,429	10,892	81,700
Combined purse seine and trawlers	8	8,152	17,256
Beam trawlers	30	3,078	10,468
Combined trawlers and netters	181	2,210	16,784
Side- and stern trawlers	487	61,662	179,284
Danish seiners	51	2,591	8,558
Others	88	3,429	14,270
Total	3,274	92,014	328,320

Text table 1. Composition of the Danish commercial fishing fleet in 2005 (31/12-2005)

The Danish fishing fleet consist mostly of vessels smaller vessels less than 12 meters in length (see Text table 2).

Vessel length	< 12 m	12 < 24 m	24 < 40 m	40 m <	Total
No of vessels	2,487	626	117	44	3,274

Text table 2. Number of Danish commercial fishing vessels by length groups in 2005 (31/12-2005)

The total landings by Danish fishing vessels in 2005 were app. 900,000 tonnes. The fishery can be divided into three main groups of fisheries:

Year: 2005	Industrial landings	Pelagic landings	Demersal landings	Total
Tonnes	542,000	190,000	168,000	900,000

Text table 3. Total Danish landings in tonnes by groups of species in 2005.

The Danish fishery takes place in the Baltic, the Kattegat, the Skagerrak, the North Sea, the Norwegian Sea and waters west of Ireland and Scotland (see Text table 4). In the Danish fishery gears as trawls, Danish seines, purse seines, beamtrawls, gillnets and hooks, trapnets are used. Most landings are taken by trawlers.

	ICES Sub-area or Divisions								
	I + II	**IIIb-d**	**IIIa**	**IV**	**VI**	**VII**	**V**	**Other**	**Total**
Demersal species									
Anglerfish (Lophius piscatorius)			273	1,604					1,877
Brill (Scophthalmus rhombus)		56	96	85					237
Cod (Gadus morhua)		17,107	3,112	5,378				2	25,599
Dab (Limanda limanda)		913	703	1,074					2,689
Eel (Anguilla anguilla)		483	6					21	510
Haddock (Melanogrammus aeglefinus)		7	521	1,080					1,608
Hake (Merluccius merluccius)			244	813					1,058
Lemon sole (Microstomus kitt)		24	446	1,007					1,477
Plaice (Pleuronectes platessa)		1,324	5,344	10,825					17,493
Saithe (Pollachius virens)		1	2,975	3,362					6,338
Sandeel (Ammodytidae)		291	3,824	152,761					156,876
Sole (Solea solea)		145	645	522				1	1,314
Turbot (Psetta maxima)		64	103	379					547
Whiting (Merlangius merlangus)		687	42	39					768
Witch flounder (Glyptocephalus cynoglossus)		1	958	681					1,640
Other demersal		3,250	578	1,415				167	5,393
Pelagic species									
Argentine (Argentina spp.)			470						470
Blue whiting (Micromesistius poutassou)	389		1,159	20,330	4,756	5,149	7,324		39,107
Herring (Clupea harengus)	28,368	7,176	39,081	86,857				5,968	167,450
Horse mackerel (Trachurus spp.)			3	3,438		9,937			13,378
Mackerel (Scomber scombrus)		1	52	23,161					23,214
Roundnose grenadier (Coryphaneoides ripestris)			14,312						14,312
Salmon (Salmo salar)		184							184
Sprat (Sprattus sprattus)		53,696	38,907	235,489				1,706	329,798
Other pelagic		328	103	79				5	515
Shellfish and muscle species									
Northern shrimp (Pandalus borealis)			2,485	477				4,470	7,433
Norway lobster (Nephrops norvegicus)		45	2,739	2,129					4,913
Shrimp (Crangon crangon)				4,189				8	4,197
Common muscle (Mytilus edulis)		21,149	6					48,000	69,155
Other shell fish		65	157	509				785	1,516
Total	28,757	106,999	119,345	557,681	4,756	15,087	7,324	61,135	901,083
% of Grand total	3	12	13	62	1	2	1	7	100

Text table 4. Total Danish landings in tonnes by species/species group by ICES Sub-area or Division in 2005.

Most of the landings take place in Denmark, hence changes have been seen over the latest years due to changes in trade barriers, increasing fuel prices and for other reasons.

2 Participating institutes

2.1 National Correspondent

Denmark has assigned the Danish Institute for Fisheries Research (DIFRES) as coordinator of the Danish collection of data in the fisheries sector.

The National Correspondent is until further notice:

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2.2 Participating institutes

The Danish NP-2007 will be conducted in close cooperation between:

Danish Institute for Fisheries Research	**Danish Directorate of Fisheries**	**Danish Research Institute of Food Economics**
Jægersborgvej 64-66 DK-2800 Kgs. Lyngby Denmark Phone: +45 33 96 33 00 Fax: +45 33 96 33 49 E-mail: hfi@difres.dk www.difres.dk	Nyropgade 30 DK-1780 København V Denmark Phone: +45 33 96 30 00 Fax: + 45 33 96 39 03 E-mail: fd@fd.dk www.fd.dk	Rolighedsvej 25 DK-1958 Frederiksberg C Denmark Phone: + 45 35 28 68 00 Fax: + 45 35 28 68 03 E-mail FOI@FOI.dk www.kvl.foi.dk
Contact person: Jørgen Dalskov Fishery Adviser Head of Division Phone: + 45 33 96 33 80 E-mail: jd@difres.dk	Contact person: John Kjersgaard Head of Department Phone: + 45 33 96 35 08 E-mail: jkj@fd.dk	Contact person: Kim Normark Andersen Senior Economic Adviser Phone: + 45 35 28 68 42 E-mail: kna@FOI.dk

DIFRES is acting as coordinator for the Danish Programme. A Steering Group has been established with members from all three Institutes involved in the programme. The main objective of the Steering Group is to coordinate of the work under the programme.

3 Module C – Fishing capacities

3.1 MP- Planned sampling

All Danish fishing vessels with the right to undertake commercial fishery are registered in the Vessel Register of the Danish Directorate of Fisheries (FD). The Vessels Register is a computerised database and includes among others the following information:

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

The information in the Vessels Register is registered according to Regulation (EC) N^{o} 2930/1986, N^{o} 2090/1998 and N^{o} 26/2004 and is updated daily.

The information on fishing capacity is merged with other fishery dependent data and stored in the DFAD as described in Section 12.

Data on fishing capacity on an aggregated level by segments as described in Appendix III of the DCR can at any time be delivered on a precision level of 3 as all fishing vessels is registered. As there is no lower limit on the size of the fishing vessel for registration in the Vessel Register and all vessels are registered, a 100% coverage of all Danish fishing vessels will be given.

3.2 MP- Derogations and non-conformities

No derogations or non-conformities are expected.

3.3 EP- Planned sampling

No application for EP

3.4 EP- Non-conformities

None

4 Module D – Fishing effort

4.1 MP- Planned sampling

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

The set of regulations prescribes that all vessels used for commercial fishery are obliged to keep logbooks of the fishery. The only exception from these rules is vessels

with a total length less than 10 m and for fishing trip in agreement with a catch area declaration. A catch area declaration is made for vessels which limit its fishing activities to a single defined area (ICES Sub-division). It should be mentioned that all fishing vessels in Denmark are registered in databases in FD.

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

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

The information in Logbook database is registered according to the provisions of Commission Regulation (EC) No 2807/83 and No 2847/93.

It is possible to estimate the fishing effort, defined as fishing days, for vessels less than 10 m (loa) as sales slips also for these vessels are recorded. Therefore, if a sales slip is recorded for a vessel less than 10 m (loa), a fishing day can be recorded.

The information on fishing effort is merged with other fishery dependent data and stored in the DFAD as described in Section 12.

Data on fishing effort on an aggregated level by segments as described in Appendix V, Appendix VI and Appendix VIII of the DCR can at any time be delivered on a precision level of 2 respectively level 1 for passive gears.

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

4.2 MP- Derogations and non-conformities

Effort for fishing vessels not carrying logbooks or vessels less than 10 m loa are defined as if a sales note exist the effort for the vessel concerned is defined as one fishing day.

No derogations are expected.

4.3 EP- Planned sampling

No application for EP

4.4 EP- Non-conformities

None

5 Module E – Catches and landings

5.1 MP- Landings - Planned sampling

According to the legislation information on fish and shellfish sold in Danish harbours has to be reported to FD. The registration and information duty applies to the following persons and parties:

- Storage warehouses, cold storage warehouses, or other establishments receiving fish and shellfish with purpose for sale, storage, sorting, or other liking treatments before the fish is sold to first hand buyers.
- Persons or parties that as a part of their trade buy fish directly from the fishermen for sale purposes on the home-market, export including transistation, for conservation purposes or processing for later sale.
- Persons or parties receiving fish directly from the fishermen in cases where the sale has taken place before the landing of the fish.
- Fishermen selling the catch directly to the consumer, or who lands directly in a foreign country, or export including transistation, or process the fish from own landing.

Therefore, all information on sold fish and shellfish are registered and all these information are stored in the Sales Notes database which is a computerised database and includes among others the following information:

- Vessel number.
- Landing place and buyer.
- Species and size-class.
- Quality and purpose (e.g. human consumption).
- Weight in kilo and value in national currency (exchanged to DKK)

The information in the Sales Notes database is registered according to the provisions of Council Regulation (EC) No 2847/93 and No 104/2000. Conversion factors for raising from gutted weight to live weight is given in Table 5.1.

It should be mentioned that all landings are recorded and there is no derogation for vessels less than 10 m (loa). This means, a 100% coverage for all landings including all other countries flagged vessels landing in Denmark.

The Danish fishery can be divided into two categories: A fishery with landings only for human consumption purposes and the so-called “Industrial fishery”, where all the landings are made for reduction purposes (fish meal and oil).

5.1.1 Collecting data on landings designated human consumption.

The above mentioned information in the Sales Notes database provides the background for collecting information of landings statistics made for human consumption landed by Danish fishing vessels.

Information on human consumption landings by Danish fishing vessels landing in Denmark and abroad will be given on a precision level 3. As human consumption species landings include all landings (census data) the precision will be better than required.

5.1.2 Collecting data on landings designated reduction purposes.

For landings made for reduction purposes only the target-species is registered. Therefore, the Sales Notes database does not contain reliable information on by-catches taken by industrial fishing fleet. In order to be able to estimate species composition of the industrial landings additional information has to be collected. The method and data used in estimation of landings by species is described in the following.

The objective of the Danish sampling scheme for industrial landings is to collect data needed for estimation of the species composition of landings by statistical rectangle and month.

A number of random sub-samples are taken from the landings. The samples are sorted and weighted by species. The information registered includes e.g.:

- The vessel number.
- Landing harbour and landing date.
- Total landing in kilos.
- Total weight in grams per sample.
- Weight in grams per species.

In addition to the above-mentioned samples, FD collects a number of samples, which are delivered to DIFRES. These samples are sorted by species and each species is length measured, weighed and selected species are aged.

The species composition of the landings is derived as follows:

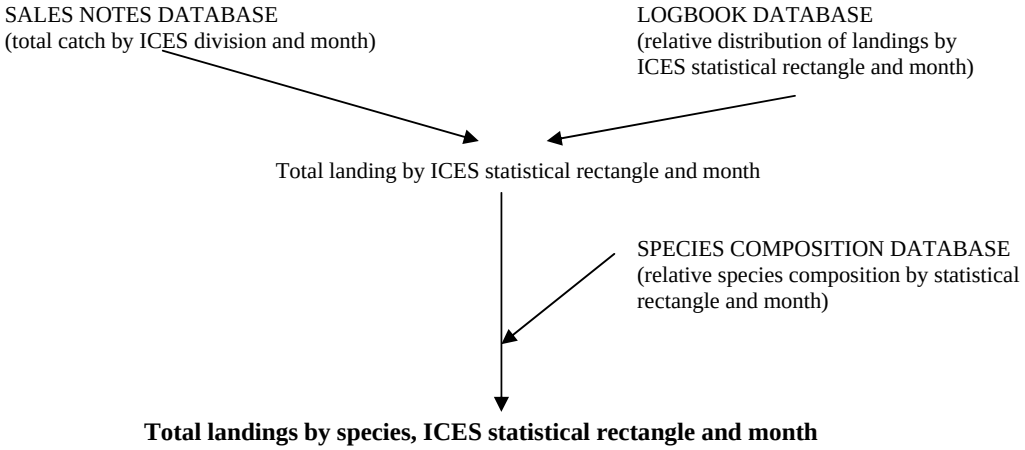
The total landings for reduction purposes by month and area are calculated using the sales note database. The landings are then allocated to statistical rectangle using the relative geographical distribution from the logbook database of landings identified as have been taken for reduction purposes. The output is the total industrial landings by statistical rectangle and month.

The relative species composition by statistical rectangle and month is estimated using the information in the species composition and biological databases. An average composition by rectangle is estimated as the mean of all samples from the rectangle. If more than one sample is taken from the same landing, a mean composition of the landing is calculated and treated as one sample.

After calculation of average composition by rectangle a new average composition is calculated taking into account the species composition in all neighbouring rectangles. Taking the mean species composition of the rectangle and all 8 surrounding rectangles does this.

The total landings by species, statistical rectangle and month are calculated using the estimated species composition and total landings by rectangle and month.

The estimation procedure is illustrated by the flow diagram below.



The information on landings is merged with other fishery dependent data and stored in the DFAD as described in Section 12.

Data on landings for the stocks mentioned in Appendix XII of the DCR will be given disaggregated as indicated in that Appendix.

The precision of landings of target (and TAC) species in the fisheries for reduction purposes will at least be at level 2 (Lewy 1996, Lewy 1995).

As some of the species listed in Appendix XII of the DCR occur as by-catch in landings made for reduction purposes in scarce quantities it is not possible to increase the precision without having disproportionately high resource expenses (Lewy 1996, Lewy 1995). Hence it will not be possible when estimating the by-catch quantities per species to reach a precision level higher than 1.

5.2 MP- Landings - Derogations and non-conformities

No derogations or non-conformities are expected.

5.3 EP- Landings - Planned sampling

No application for EP

5.4 EP- Landings - Non-conformities

None

5.5 MP & EP - Discards – Planned sampling

According to the DCR chapter 3.E.1.b Denmark must collect discard data in order to be able to present estimates of discard for selected species. Discards will be monitored for the stocks mentioned in Appendix XII of the DCR.

Sampling directed towards the estimation of discard was initiated in 1995 both in the North Sea, Skagerrak, Kattegat and the Baltic Sea. The sampling was since 2002 directed towards fisheries where it was shown that discard occurred on a significant level. Based on sampling made from 1995 to 2000 it is verified that the discard rates obtained in the Danish gillnet fishery, the fishery using hooks and the small mesh size fishery are insignificant compared to the rest of the fisheries. Taking this into account and in order to maximise the level of certainty of the overall discard estimate the sampling is concentrated to the fisheries shoving significant discard: demersal trawl, Nephrops trawl and Danish seine. Herring and mackerel trawlers will also be sampled in 2007 (see table 5.2).

Based on discard sampling carried out since 2002 the planned Danish discard sampling in 2007 is given in Table 5.3. Furthermore, it should be mentioned that Denmark has for 2007 planned an intensive sampling of mackerel and herring fisheries where app. 5 percent of the total number of fishing days in these fisheries will be sampled.

The vessels for monitoring will more or less be randomly selected within a given fishery among a large number of vessels identified in close cooperation with the Danish Fishermen's Organisation. In addition some considerations will be made in order to assure that different vessel sizes and various durations of the fishing trips are covered. There is no authority in Danish law, which give the possibility to enforce the observers' participation on a fishing trip. Therefore, the vessels will not be sampled randomly among all vessels performing a given fishery but only among the vessels where the skipper beforehand has agreed in having observers on board. It is the objective to include as many different vessels as possible in the sampling scheme. By the involvement of the Danish Fishermen's Organisation in the selection of vessels potential for sampling, some mutual concessions are facilitated allowing the broadest possible basis for the sampling, representing most categories of behaviour among fishermen and assuring not too biased results.

The fishery performed in different areas differs considerably in respect to duration, number of station per trip and handling of the catch. In the North Sea trips are often up to 3 weeks of duration, while trips of 1-2 days duration are common in the Kattegat and the Baltic Sea. Because of differences in the fisheries in the areas different sampling procedures are applied. If possible, all biological information from the catch will be sampled from each station.
Those are:

- Total weight of discard and landing by all species caught.
- Separate length distributions of discard and landings by all relevant species caught.
- Otoliths and individual mean weight per cm-length group of selected species.

In addition all relevant vessel, gear and geographical information will be recorded.

All data recorded in connection with the collection of discard are included in a national central database (see Section 12) holding all biological catch data collected by DIFRES.

Danish discard figures will be raised to total yearly discard by species and fishery by applying the ratio between discard and retained amount in the sampled fishing trips to the total landing.

5.5.1 Quality assurance of discard data

The discard data are collected in agreement and in cooperation with the Danish Fishermen's organisation. This assures a continuous and fruitful communication between the industry and the fisheries biologists and facilitates the possibility of a continuous adjustment of the sampling scheme to the actual activity and trends in the industry. At the same time a careful going through the data collected looking at the premises for the sampling, not the results, assure that the data collected are in agreement with the reality defined as the understanding of the fishery based on discussions between in the fishermen and the biologists.

A very important spin-off from the discard sampling at sea is the opportunity to intensify the communication with the Danish Fishermen's organisations and the individual fisherman providing a natural possibility to explain and overcome the misunderstandings often existing between the fishermen and the fisheries biologists. This has already involved changes toward a more constructive and responsible attitude by the fishermen and the Fishermen's Organisation.

5.5.2 Storage of discard data

All Danish catch data sampled during discard sampling in the North Sea, Skagerrak, Kattegat and the Baltic Sea are included in the international database "FishFrame". This database constitutes the backbone in international discard calculations and is essential for the further development and international cooperation concerning discard.

5.6 MP & EP - Discards – Derogations and non-conformities

As mentioned in section 5.5 Denmark will based on sampling made from 1995 to 2000 in the gillnet, trapnet, pot and hook fishery not carry out any discard sampling on these fisheries.

A number of different fisheries are identified in the Danish fishery. Taking this into account and in order to maximise the level of certainty of the overall discard estimate the sampling is concentrated to the fisheries shoving significant discard: demersal trawl, Nephrops trawl and Danish seine. In 2007 discard sampling in herring and mackerel fisheries will be carried out in order to get a "snapshot" of the discard pattern in these fisheries.

5.7 MP - Recreational – Planned sampling

5.7.1 Collecting data on recreational fishery for salmon in the Baltic

According to the DCR chapter 3.E.1.b Denmark must collect data on salmon (mentioned in Appendix XI) caught by recreational fishery in both the Baltic sea and the North sea.

In the North Sea no recreational fishing for salmon takes place.

The recreational fishery for salmon in the Danish waters is mainly a trolling fishery taking place around the island Bornholm, especially to the east and north of Bornholm in ICES Sub-division 25. In recent years catches have also been reported from further west in the Baltic. The troll-fishing season starts in September and ends in the month of May. In addition to this, a fishery with fixed hook lines set for salmon and gill-nets set for trout by non-professional residents on the island Bornholm takes place. This fishing mainly takes place in late autumn and early winter.

The recreational fishery is partly organized in local anglers associations (both on Bornholm and on the Island Zealand), and boat rental companies in small harbors at the coast of Bornholm. Some fishing by unorganized tourist fishermen from both mainland Denmark and from foreign countries, arranging travel and boat transport by themselves, also takes place. A few times every year fishing competitions are organized with 150 – 200 boats participating.

The catches in the recreational fishery are not officially registered in Denmark. In previous years it was estimated that the total catch was approximately 3000 individuals.

DIFRES will in 2007 as in previous years estimate the total fishing effort (i.e. the number of boat-days) by collecting information from local anglers, boat rental companies, the ferry company servicing Bornholm and from results from fishing competitions. From selected anglers information on the average catch-per-unit-effort (CPUE) will be collected, and from this the total catch by troll fishing will be estimated. Previous attempts on collecting information by questionnaires from a larger part of the anglers did not prove to be efficient, as the response was very poor.

The catch of salmon by non-professionals using fixed hook-lines and nets set for trout has previously been very uncertain. For the year 2007 DIFRES will try to gather information on the effort (number of hooks and nets used) from the local Fisheries Inspectors and on the average CPUE from interviews with selected fishermen. Based on these figures the total catch will be estimated.

5.7.2 Collecting data on recreational fishery for cod

Recreational fishery in Denmark for cod as target species or as by-catch in fishery for other target species is to some extent conducted by non-professional fishermen. The recreational fishery includes both fishing with rods and passive gears and according to Danish law it is illegal for recreational fishermen to sell their catches. A fishing license has to be obtained by the recreational fishermen before conducting any fishery in fresh or marine water.

Angling by rod

The fishery is performed on commercial organized trips with vessels dedicated to the purpose or by individuals fishing from the coastline or from private boats near the shores. A small part of the anglers are organized in local regional recreational fishermen associations under the umbrella of the Danish Sports fishing Society (Dansk Sportsfiskerforbund). These more than 200 associations cover typically

marine fishery as well as freshwater fishery. App. 30.000 persons were in 2005 registered in one of those associations. An unknown number of other anglers associations are not connected to the Danish Sports fishing Society and a significant number of the anglers are not member of any association.
The act of law shall apply to fishing with light hand fishing tackle in natural fresh-water systems and in the sea if you have reached the age of 18 and not reached the age of 65. According to the official statistics 152.534 persons held such a license in 2003.

Recreative fishing by passive gears

All Danes at 12 years at age or more are allowed to fish with 6 passive gears (traps, gillnets or long lines) if they buy a special fishing license for this purpose.
According to the official statistics 33.516 persons had a license for recreational fishery with passive gears in 2003.

The main "target" for the recreational fishermen using passive gears is eel, flatfishes and herring, but some fishermen are also fishing for cod. It is known that there are bycatches of cod in especially the fishery for eel- and flatfishes.

Planning of the data collection from anglers in 2007

DIFRES have planned to collect data from the following sources:

- Personal contact to anglers at regional basis
- Contact to local anglers associations
- Vessels dedicated to organized angling trips

The pilot study is planed to be carried out using telephone surveys of random selected individuals having a fishing licence, inquiries to the local recreational fishery associations, inquiries to the organizer of commercial recreational fishing trips and by use of official statistics.

The estimate of catches from non organized anglers, and anglers below 18 years and above 65 years of age has to rely on the assumption that the fishing pattern does not differ from the rest of the recreational fishermen and on an estimate of the number of persons based on the data from the organizations fishermen and official statistics.

Planning of the data collection from the recreational fishery using passive gears in 2007

In order to get the best estimate on the catches of cod in the recreational fishery with passive gears, it is planned to carry out a pilot study in cooperation with the Danish Fisheries Inspection. The Fisheries Inspection have quite good knowledge in the recreational fishery using passive gears, and are often working in the coastal areas on inspection of the total fisheries, including the recreational fisheries with passive gears.

From data collected by the Fisheries Inspection on a number of different types of gears, number of fishing days, catches and by-catches in numbers, the total catch of cod can be estimated.

5.8 MP – Recreational – Derogations and non-conformities

No derogations or non-conformities are expected.

5.9 EP - Recreational – Planned sampling

No application for extended programme.

5.10 EP- Recreational – Derogations and non-conformities

None

6 Module F – Catches per unit effort

6.1 MP- Planned sampling

The collecting of data concerning the catches per unit of effort and/or effective effort of specific commercial fleets will be done following the guidelines in the Minimum Programme, as both the catch and effort data are collected in the National Programme Denmark will continue to produce CPUE data, according to the provision in the DCR 1581/2004, for assessment purposes as collection of catch and effort data is carried out for all Danish fishing vessels. Table 6.1 is giving the Danish commercial tuning fleets provided to the ICES stocks assessment working groups.

6.2 MP- Derogations and non-conformities

No derogations or non-conformities are expected.

6.3 EP- Planned sampling

No application for EP

6.4 EP- Non-conformities

None.

7 Module G – Scientific evaluation surveys

7.1 MP- Planned priority 1 surveys

The Danish Institute for Fisheries Research command three research vessels. The R/V DANA which is a stern trawler with a loa of 78 meters. DIFRES uses R/V DANA when conducting the International Bottom Trawl Survey (IBTS), the Baltic International Trawl Survey (BITS), the Acoustic Survey in the Norwegian Sea (ASH) and the Herring Acoustic Survey (HERSUR).

One of the other Danish research vessels R/V HAVFISKEN, a 20 GRT side trawler is used at the BITS survey in the Kattegat and the Western Baltic area.

The smallest of the Danish Research vessels the R/V HAVKATTEN is normally only used in the very coastal areas and is not used within any of the surveys conducted within the framework of this programme.

All member states are obligated to undertake scientific research at sea to evaluate the abundance and distribution of stock independently of the data provided by the commercial fisheries in the case of stocks mentioned in of the DCR. The below described surveys are of priority 1 and are thus a part of the minimal program defined in the DCR Appendix XIV. Denmark will undertake 5 different surveys in the North Sea, the Skagerrak, the Kattegat and the Baltic Sea.

In 2007 Denmark will as in the two previous years try to organize cooperation with Germany, Ireland, the Netherlands, Sweden and UK on a joined EU participation in the ICES international coordinated survey on the Norwegian Spring Spawning Herring and blue whiting in the Norwegian Sea. It is the intention that the Danish R/V Dana will be used and that the scientific staff onboard the cruise should be a joined staff. Denmark will offer to act as coordinator of the joined EU survey.

Denmark has agreed in participation in the Blue whiting survey west of Ireland and staff from Denmark participates on the two vessels – R/V Tridens and R/V Celtic Explorer. Denmark will also have staff onboard the German R/V Solea when conducting the Acoustic Herring survey in the southern Kattegat, the Belt Sea and the Western Baltic. This cooperation and participation will continue in 2007.

The surveys described in this programme are internationally co-ordinated and will remain so when the programme is implemented. The planning and co-ordination of the surveys are done in the ICES working groups connected with the surveys (IBTS Working Group, BITS Working Group, Herring Survey Planning Working Group, and Planning Group on Surveys on Pelagic Fish in the Norwegian Sea).

7.1.1 BITS first/fourth quarter

According to the DCR this survey is classified as a Priority 1 survey. The survey is undertaken twice during a year, in the 1st quarter (18 days at sea) and in the 4th quarter (18 days at sea) both with the research vessel R/V DANA, and the smaller research vessel R/V HAVFISKEN undertakes the second part of the BITS in the sub-areas 21-23 during the same periods.

The primary purpose of the part undertaken by R/V DANA is to develop indices for recruitment and stock abundance of the Baltic cod stocks. The second part undertaken by R/V HAVFISKEN provides in addition to cod also abundance indices for flatfish.

The sampling procedure and the level of precision are defined in the Manual for the Baltic International Trawl Surveys. Addendum to ICES CM 2002/G:05
(http://www.ices.dk/datacentre/datras/Manual%20BITS.pdf)

R/V DANA:
The cod population is estimated by means of establishing catch-rates in bottom-trawls in different depths and areas in the ICES subdivisions 24, 25, 26, and 28.
Data on gonadal maturity and weight of individual cod and organs is obtained to establish sex specific maturity ogives, mean weight and condition at age for cod. Hydrographical data are collected with a CTD.

R/V HAVFISKEN:
The species composition and the length distributions of all caught fish are recorded, and samples for ageing are taken of cod, plaice and sole. Hydrographical data are collected with a CTD.

Data are stored in an international database and used by relevant ICES Working Groups.

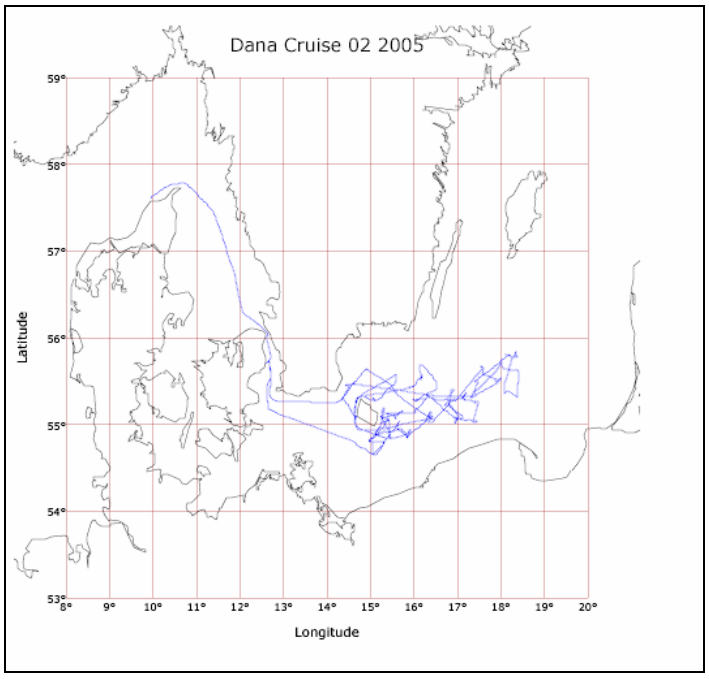


Figure 7.1Map showing the R/V Dana BITS first quarter 2005 survey grid. The survey area will the be same for 2007 BITS quarter 1 survey.

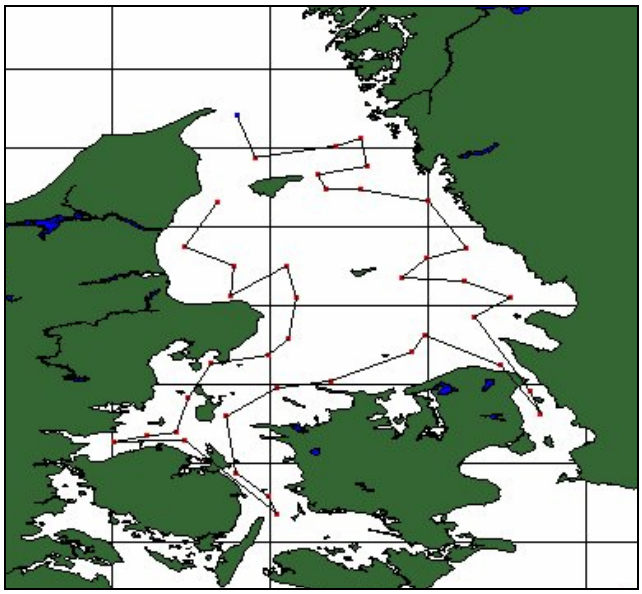


Figure 7.2 Map showing the R/V Havfisken BITS first quarter 2005 survey grid. The survey area will be the same for 2007 BITS quarter 1 survey.

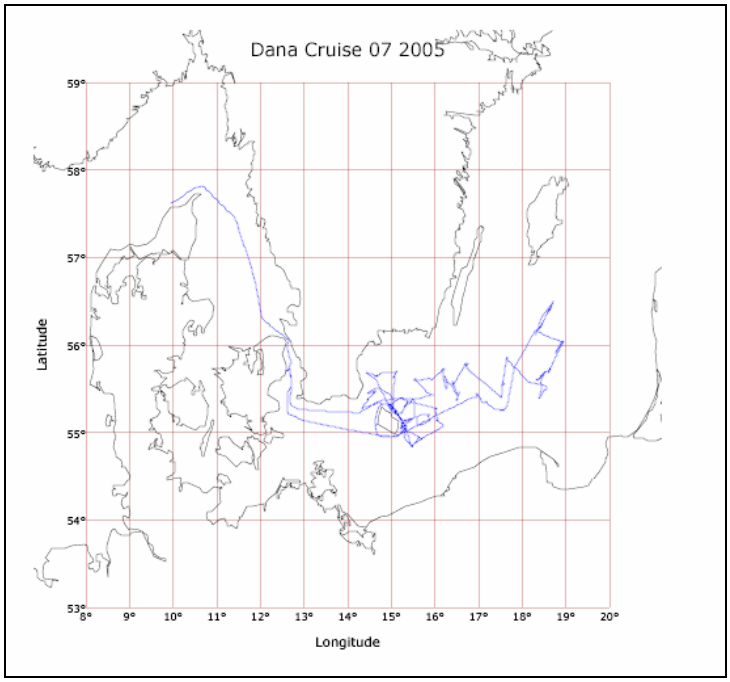


Figure 7.3 Map showing the R/V Dana BITS fourth quarter 2005 survey grid. The survey area will be the same for 2007 BITS quarter 4 survey.

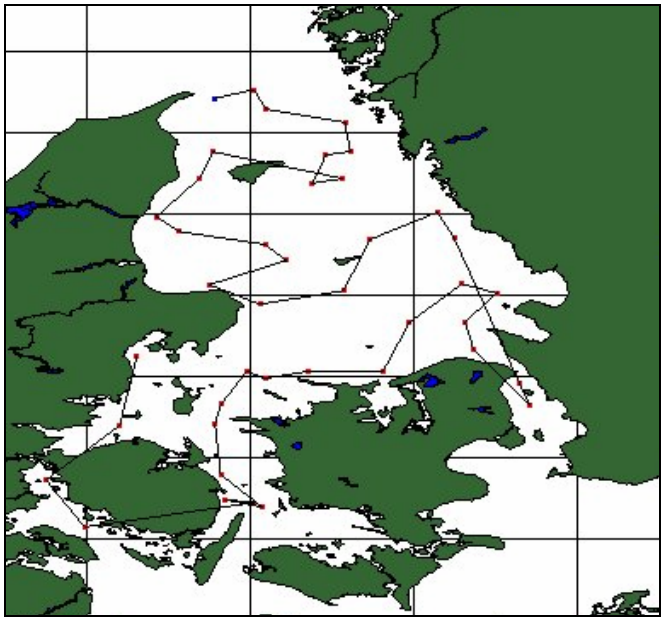


Figure 7.4 Map showing the R/V Havfisken BITS fourth quarter 2005 survey grid. The survey area will be the same for 2007 BITS quarter 4 survey.

7.1.2 Herring Acoustic Survey.

The survey is planed to take place in September- October and is conducted with the German R/V Solea. The survey is conducted in cooperation with Germany. The total survey time is around 20 days. The purpose is to provide acoustic abundance estimates of Herring and Sprat in the Baltic Sea.

The results of the survey will be sent to the Herring Assessment Working Group for the Area South of 62'N (ICES HAWG) and Baltic Fisheries Assessment Working Group (ICES WGBFAS).

Denmark has agreed in participation in this survey and staff from Denmark will participate on the vessel.

7.1.3 IBTS first quarter and IBTS third quarter

According to the DCR this survey is classified as a Priority 1 survey. The survey is undertaken twice during a year, one in the first quarter (22 days at sea) and during the third quarter (18 days at sea) and is the Danish part of the IBTS. R/V DANA is used when conducting this survey.

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

The sampling procedure and the level of precision are defined in the Manual for the International Bottom Trawl Surveys (Revision VII):
(http://www.ices.dk/datacentre/datras/NSIBTSmanualRevVIIdraft.pdf)

The survey is ICES co-ordinated and performed in collaboration with research vessels from France, Norway, England, Germany, The Netherlands, Scotland and Sweden. The survey is carried out as a bottom trawl survey deploying a GOV trawl during daylight hours as a standard aboard all research vessels involved. In addition to the trawl-surveys, a Method Isaac Kidd trawl is deployed during night hours to estimate the abundance of fish larvae, in particular herring- and sprat larvae. Hydrographical data are collected with a CTD. In 2007 a number (not finally agreed yet) extra days will be used for further intercalibration with the Swedish R/V ARGOS (started in 2005) in order to secure that same catchability by the trawl used by ARGOS is the same as used by DANA as recommended by the ICES IBTSWG 2006. The results from the intercalibration exercise in 2005 indicate that further effort has to be used.

Data are stored in an international database in ICES and revised before usage in the relevant ICES Working Group.

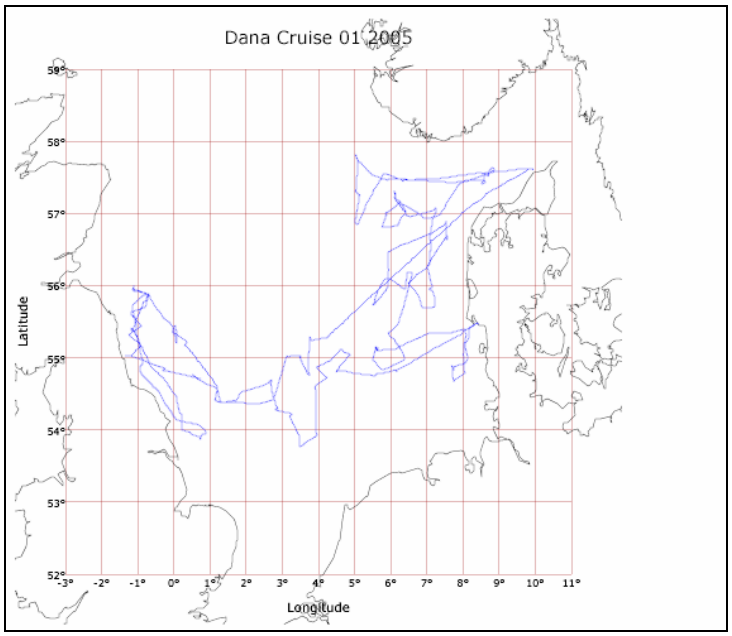


Figure 7.5 Map showing the R/V Dana IBTS first quarter 2005 survey grid. The survey area will be the same for 2007 IBTS quarter 1 survey.

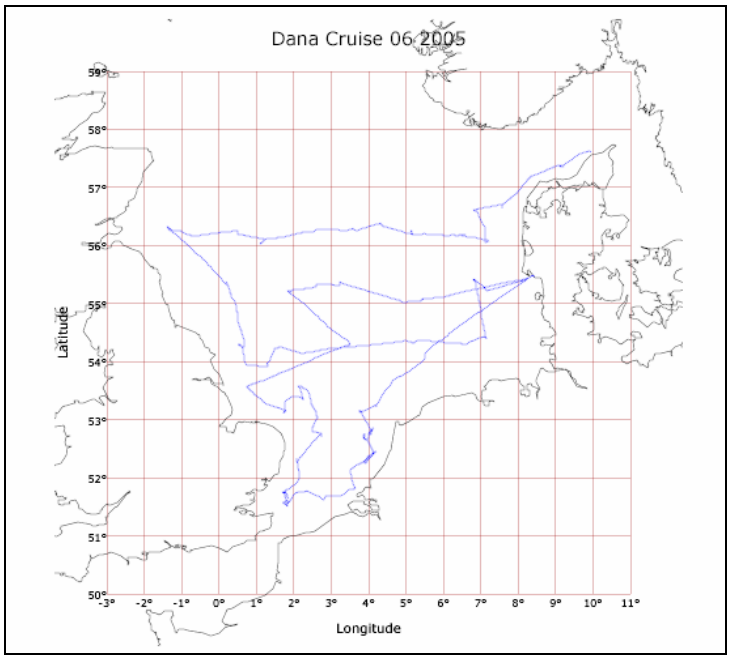


Figure 7.6 Map showing the R/V Dana IBTS third quarter 2005 survey grid. The survey area will be the same for 2007 IBTS quarter 3 survey.

7.1.4 Atlan/Scand. Herring survey

The survey is planed to take place in May-June in cooperation with Norway, The Faroe Islands, Iceland and Russia. The total survey time is undertaken on 30 days and consists of a calibration part (1-2 sea days) and an acoustic abundance estimate of herring stocks (28 sea days) inclusive the time used to steam from homeport to the survey area and back to homeport again.

The purpose is to provide acoustic abundance estimates of herring and blue whiting in the Norwegian Sea.

The survey will be conducted as specified by the Herring Survey Planning Working Group, Planning Group on Surveys on Pelagic Fish in the Norwegian Sea (ICES, PGNAPES)

Hydrographical data are collected using a CTD and plankton using a WP2 sampler.

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

Denmark has offered to act as co-ordinator of conducting the survey and will contact other member states (Germany, Ireland, the Netherlands, Sweden and UK) which have quota shares of more than 5 % on the EU Norwegian Spring Spawning quota. A proposal for costs sharing for conducting the survey will be distributed to Germany, Ireland, the Netherlands, Sweden and UK. If not **all** involved member states participate in conducting the survey are willing to pay their share of the costs, Denmark will ask for derogation for running the survey.

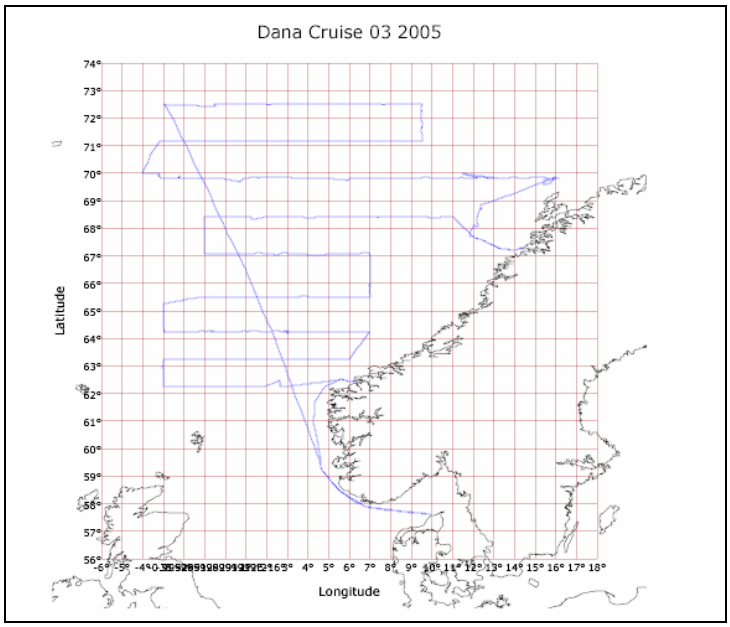


Figure 7.7 Map showing the R/V Dana ASH 2005 survey grid. The survey area will be the same for the 2007 survey.

7.1.5 NS herring acoustic survey

According to the DCR this survey is classified as a Priority 1 survey. The survey is undertaken during the 2nd and 3rd quarter and consists of a calibration part (2 seadays) and an acoustic abundance estimate of herring stocks (12 seadays) in the North Sea, the Skagerrak, and the Kattegat.

The purpose is to provide acoustic abundance estimates of herring and sprat in the North Sea (eastern part), the Skagerrak, and the Kattegat.

The sampling procedure and the level of precision are defined in the Manual for the Herring Hydro Acoustic Surveys 2002 (Version 3.1).

The acoustic abundance estimate is done in collaboration between Denmark, Norway, Scotland, Germany, and The Netherlands. The herring are length measured and weighted aboard and sent to the laboratory in Charlottenlund for further examinations such as sex, maturity, age and spawningtype.

Hydrographical data are collected using a CTD.

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

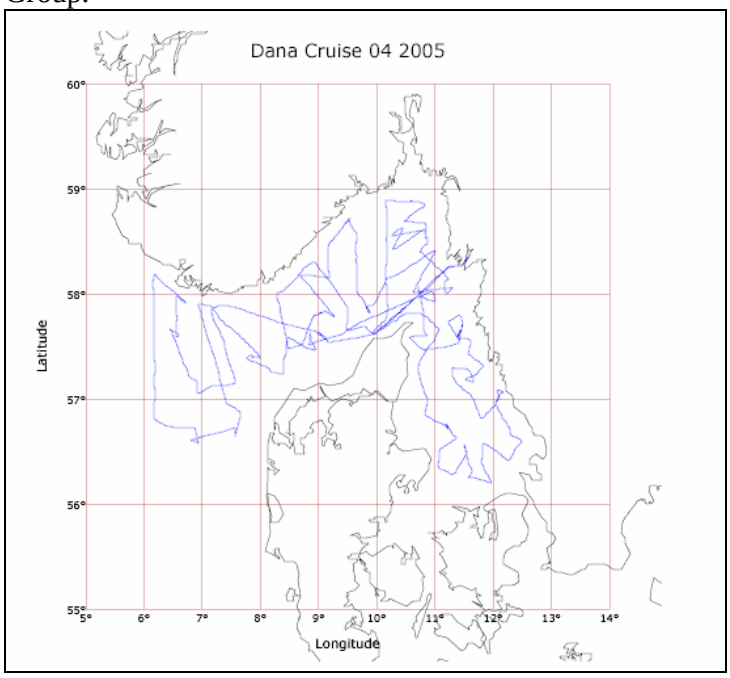


Figure 7.8 Map showing the R/V Dana 2005 NS Herring acoustic survey grid. The survey area will be the same for the 2007 survey.

7.1.6 Blue whiting survey

The survey is planed to take place in March – April and it is planed that the Dutch R/V Tridens and the Irish R/V Celtic Explorer will conduct the survey. The survey is conducted in cooperation with Norway and Russia. The total survey time is 18 days for R/V Tridens and 20 days for R/V Celtic explorer

The purpose is to provide acoustic abundance estimates of blue whiting at the spawning grounds.

The survey will be conducted as specified by the Herring Survey Planning Working Group, Planning Group on Surveys on Pelagic Fish in the Norwegian Sea (ICES, PGNAPES).

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

Denmark has agreed in participation in this survey and staff from Denmark will participate on the two vessels.

7.1.7 Nephrops TV survey

This survey will be developed (2006) by national financing. It is the plan to conduct the first survey in the summer 2007 and to use the Danish R/V HAVFISKEN to conduct the survey. The survey time is planned to 14 days and will be conducted in the Kattegat area.

The final survey are is not defined yet.

7.1.8 Other surveys.

Danish research vessels have never participated in other of the priority 1 surveys listed in Appendix XIV in DCR and therefore derogation for participating in these surveys is requested.

7.1.9 Coordination and quality assurance.

The IBTS, BITS, Herring acoustic in the North Sea, the Skagerrak and the Kattegat, the Acoustic survey in the Norwegian Sea as well as the blue whiting survey west of Ireland are all international coordinated surveys, which endeavour a high level of consistency in sampling procedure among participants. As a part of this, exchange of staff onboard research vessels between countries will be conducted. It is believed that this is an important contribution to the quality assurance of the survey data.

7.2 MP- Derogations and non-conformities

Denmark has offered to act as co-ordinator of conducting the Atlan/Scand. Herring survey and will contact other member states (Germany, Ireland, the Netherlands, Sweden and UK) which have quota shares of more than 5 % on the EU Norwegian Spring Spawning quota. A proposal for costs sharing for conducting the survey will be distributed to Germany, Ireland, the Netherlands, Sweden and UK. If not **all** involved member states participate in conducting the survey are willing to pay their share of the costs, Denmark will ask for derogation for running the survey.

7.3 EP- Planned priority 2 surveys

No application for EP

7.4 EP- Non-conformities priority 2 surveys and upgrates

None

8 Module H – Length and age sampling

Introduction
The DCR gives the instructions that biological sampling must be performed in order to evaluate the composition in length and where appropriate in age of landings for all

stocks specified in Appendix XV and Appendix XII respectively in the DCR and for some species also other biological samplings as specified in Appendix XVI.

Biological samplings must be performed if the Danish share of the EU TAC or when total landings of a certain species, listed in Appendix XV of the DCR exceeds the thresholds defined in the DCR; Chapter III, Section H (1) (d) 1) and 2). The Appendix XV in the DCR also defines the level of sampling required, which in principle is proportional to the landings. Table 8.2 shows the mean landings made in Denmark by Danish flagged vessels for the period 2003-2005. Information on the Danish and the total EC TAC is given for 2006. It should be noticed that at the time of the preparation of this proposal for data sampling in 2007, the potential landings of the years for which sampling is planned (TAC's) have not yet been defined. Therefore, some of the encountered problems are listed below:

- Potential landings to be sampled of the years for which sampling is planned (TAC's) have not been defined yet.
- Also the amount of landings by foreign flagged vessels landed in Denmark cannot be predicted.
- Reducing sampling targets when the TAC decreases cannot always be done while aiming simultaneously for maintaining the required level of precision defined in Chapter III, section B (4) of the Regulation. Similarly increasing sampling targets when the TAC increases, does not always result in a significant improvement of the level of precision.

The actual sampling scheme, to be implemented in 2007 may therefore deviate from the proposed scheme, depending on the changes in quota in 2007 compared to 2006.

All biological sampling data will be stored in a central database at DIFRES. Data security is ensured by common standards. Data entry is conducted at the two laboratories in Charlottenlund and in Hirtshals to a closed network. To maintain data integrity and performance of the database a data manager will maintain the database.

The tasks of the data manager are:

- Merge data sampled on research vessel to the main base.
- Compact and tune the database at regular intervals
- Perform backup of data
- Act as help-deck for user of the base
- Maintain look-up tables
- Make error checking and consistency tests on the database
- Maintain a security system, that grant users and outside partners access to data at an appropriate level

DIFRES is still working of further development of the national biological data base "Babelfish" in order to conduct a better quality assurance of the collected and analysed data and samples. Furthermore, further development of as the international data base "FishFrame".

The Danish standard sampling scheme

The Danish standard sampling scheme will be carried out on a quarterly or monthly basis by ICES Division, Sub-division or statistical rectangle depending on the

requirements. All sampling- and measurement procedures are described in internal manual. For each stock the intended sampling level is given in Annex V and VIII as outlined in the DCR, for landings made both by Danish and other Members States flagged vessels which land in Denmark.

The Danish sampling schemes for sampling biological information from the landings can be divided into three sampling systems:

- **Harbour sampling of landings of demersal species for human consumption purposes.**
  Sampling of demersal species is mostly carried out in the harbours. For standard sampling a defined number of kilos of fish are collected from each size grade of the landings. These fish are length measured, weighted and aged.
- **Harbour sampling of landings of pelagic species for human consumption purposes.**
  Sampling of pelagic species is mostly carried out in the harbours. Standard samples are non-size grated samples and for these samples a defined minimum number of fish is collected of the landings. These fish are length measured, weighted and aged.
- **Harbour sampling of landings for reduction purposes.**
  The industrial fishery is divided into four types of fisheries; the sandeel fishery, the sprat fishery, the Norway pout fishery and the blue whiting fishery. For each of these fisheries a number of samples are collected accordingly with Appendix XV in the DCR. These fish are length measured, weighted and aged.

For all three categories samples will be collected randomly and the number of samples will reflect the fishery activity. For each stock the intended sampling level is given for Danish landings in Denmark in Table 8.1. The sampling level is based on the average landings for 2003-2005 and as outlined in the DCR for landings made by both Danish - and other Member States flagged vessels landing in Denmark.

Sampling length, weight and age from discards is carried out by scientific observers onboard commercial fishing vessels.

The ageing is performed according to the standardised method. The aggregated data are stored in the Biological database ("Babelfish") at DIFRES.

With reference to Table 8.1, a description of the stocks that will be a part of the Danish sampling programme is given below. Each stock is described by the following structure: The Danish landings made in Denmark and the Danish TAC is given and the fishery for the stock is shortly described. If the biological sampling of catches deviates from the standard described above, the sampling is described. If any other biological analysis is conducted, this is described.

8.1 MP - Landings - Planned sampling

The Danish sampling scheme for 2007 is based on the average Danish catches for 2003-2005. Therefore, the total sampling for 2007 can be increased or decreased depending on the Danish quotas for 2007 and the actual landings in 2007 both from Danish and other EC member states flagged vessels landings in Denmark. It should also be stressed that for some species, especially species for which recovery plans are

implemented, such as for cod, the sampling levels need to be increased and sampled with a higher intensity than prescribed in the DCR. For these species Denmark will follow the EP sampling levels in order to achieve an adequate sampling for assessment purposes.

The sampling is a stratified random sub-sampling of all landings. The sampling scheme is stratified on area, quarter, species and commercial sorting. All assessment relevant species are sampled according to the Minimum Programme. All relevant information necessary for estimating number of individuals landed by age group and mean weight by age group is recorded. Furthermore, stratified maturity ogives are estimated based on internationally agreed maturity stages definitions.

The sampling intensity level follows the framework of the MP adjusted to the actual fishing activity level (in terms of landing) in each stratum. The adjustments are based on monthly interviews of first-hand buyers of fish and real time information from the central logbook database.

8.1.1 Pelagic fishery

Herring fishery
Denmark is having herring fishery in the Baltic, the Kattegat, the Skagerrak, the North Sea and in the Norwegian Sea. The fishery is carried out by trawlers and purse seiners, the latter is not permitted in the Kattegat and the Baltic. Most common mesh size is 32 mm but in the North Sea and the Norwegian Sea larger mesh sizes are used.

Standard sampling procedure as described in section 8 (introduction) will be used when sampling and analysing these herring samples.

Herring in ICES division IIIb-d
The Danish share of the total EU quota in that area is app. 4 percent and therefore not obliges Denmark to sample this stock. As herring also is taken as by-catch in other fisheries, Denmark would like to continue the sampling in order to secure the quality of the international data collection for the different herring stocks.

The herring fishery takes place in all seasons, however, more intensively during periods when the cod fishery is low. The catches are only landed for human consumption purposes. By-catches of herring takes place in the sprat fishery and these catches are used for reduction purposes. The fleet is mainly smaller trawlers only part-time engaged in the herring fishery. In addition a few medium sized herring-trawlers participate in the fishery.

Planned sampling intensity is given in Table 8.1.

Herring in ICES division IIIa
The human consumption fishery is mainly occurring during June to October and the small meshed fishery on the spring and autumn.

The purpose of the other biological sampling is to estimate on a yearly basis the distribution of sex, maturity per age and stock and in addition, to determine the spawningtype of the individual herring.

The herring population in this area is composed of 3 stocks, and the sampling is performed on the following categories (Article 11.1.a.ii) in the DCR:

- Autumn spawners from the North Sea.
- Spring spawners from the Western Baltic.
- Winter spawners both from the English Channel and local populations.

Assessments are done on these spawning types. The spawning type is determined from the otoliths following an intern manual (Mosegaard, H, L.A. Worsøe, and M. Lindberg 1999)

Herring is also taken as by-catch in the small meshed fishery. These landings are counted against a by-catch quota. The landings will be sampled as described in section 8 (Introduction).

Planned sampling intensity is given in Table 8.1.

Herring in the North Sea and Eastern Channel

The fishery is mainly occurring during October to May. By-catches of herring taken in the small meshed fishery for sandeel, sprat and Norway pout is estimated in 2004 to app. 13,600 tonnes.

The purpose of the other biological sampling is to estimate on a yearly basis the distribution of sex, maturity per age and stock and in addition, to determine the spawningtype of the individual herring.

The herring population in this area is composed of 3 stocks, and the sampling is performed on the following categories (Article 11.1.a.ii) in the DCR:

- Autumn spawners from the North Sea.
- Spring spawners from the Western Baltic.
- Winter spawners both from the English Channel and local populations.

Assessments are done on these spawning types. The spawning type is determined from the otoliths following an intern manual (Mosegaard, H, L.A. Worsøe, and M. Lindberg 1999)

Planned sampling intensity is given in Table 8.1.

Herring in the Norwegian Sea (Norwegian Spring Spawners (NSS))

Atlanto-Scandian herring is landed during spring only for human consumption purposes. As a major part of Danish landings of NSS herring is taking place in Norway, Iceland or at the Faroes. Again for 2007 an arrangement concerning sampling of these landings will tried to be set up with the landing countries, as a supplement to the standard sampling in Denmark.

Planned sampling intensity is given in Table 8.1.

Mackerel fishery

Denmark is having mackerel fishery in the Kattegat, the Skagerrak, the North Sea and in Faroese waters. Mackerel is landed during autumn and winter only for human consumption purposes. The fishery is undertaken by trawlers and purse seiners all using gear with a mesh-size larger than 32 mm.

Planned sampling intensity is given in Table 8.1.

Salmon fishery
The Danish salmon fishery is combined of a longline fishery from November to March and a driftnet fishery in the remaining months of the year except from a few summer-months, where there is no fishing for salmon. However, the majority of the fishing is taking place during September, October, and January. Approximately 20 vessels participate in the salmon fishery and none of these are full-time engaged in fishing.

The sampling of salmon is following the standard sampling scheme. In practise the sampling is done from 1 auction-hall in Bornholm where all landings are made. The sampling is size-class stratified and scales are taken from all size-classes. The scales are analysed at DIFRES.

It is acknowledged by DIFRES that it for other Baltic countries could be valuable to use DNA micro satellite-analysis to separate wild salmon from reared salmon. However DIFRES will not use genetically analysis of sampling done in Denmark.

Planned sampling intensity is given in Table 8.1.

8.1.2 Demersal fishery

Cod fishery
The fishery of cod is taking place in the Baltic, the Kattegat, the Skagerrak and the North Sea. The fishery is carried out by trawlers and gill netters. The mesh size used by the trawlers depends on fishing areas, as the mesh size regulation differ from area to area. In the Baltic a Bacoma exit window of 110 mm mesh size have to be used and a 90 mm mesh in Div. IIIa. Most common mesh size used in cod fishery in the North Sea is 120 mm. Gill netters are using different mesh sizes but most common is between 130 mm and 180 mm.

Standard sampling procedure as described in section 8 (introduction) will be used when sampling and analysing these cod samples.

The sampling of cod follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-5. At least one sample will be collected by size-grade per season. In cases where cod appears as by-catch in the small meshed fishery all individuals are sampled, length measured and aged.

Cod in the Baltic
The cod population in the Baltic is divided into two different stocks: The Eastern stock (Sub-divisions 25-32) and a Western stock (Sub-divisions 22-24). The sampling and data revision is made for each stock.

Also the fishery is divided into East and West of the Baltic. East of Bornholm the fishery is mostly performed during March to May and is directed towards the spawning cod population. A summer stop for the Eastern area is in force in the period May to mid September. The fishery is closed in the Western area from March to May. Almost all types and sizes of vessels are engaged in the fishery and the gears used are pelagic trawl, bottom trawl, gillnet and to a lesser extent hooks. The fishery is exclusively directed towards cod and only by-catches of flounder may occur during

February and March. West of Bornholm the fishery is taking place during most of the year, except for the summer-stop, depending on the TAC's. The fishery is a combined fishery with cod as a main target-species with a considerable by-catch of flatfish. It is primarily smaller vessels that participate in the fishery and the gears used are bottom trawl, Danish seine, gillnet, trapnet and hooks. However, larger foreign vessels do participate in shorter periods.

As the Eastern cod stock is managed under a recovery regime, the sampling level needs to be increased in order to collect adequate data for stock assessment purposes. Therefore, if possible, it is the intensions of sampling at a higher level than prescribed in the DCR. The intension is to double the sampling for the Eastern area.

If cod appears as by-catch in samples collected from other fisheries all individuals are sampled, length measured and aged.

Planned sampling intensity is given in Table 8.1.

Cod in the Kattegat and the Skagerrak
The cod fishery is taking place during all year and a major part of the cod fishery is done by trawlers and to a lesser extent by gillnets vessels (mainly during the winter). All gears used have a mesh size larger than 90 mm.

As these stocks are managed under a recovery regime, the sampling level needs to be increased in order to collect adequate data for stock assessment purposes. Therefore, if possible, it is the intensions of sampling at a higher level than prescribed in the DCR. The intension is to sample at the EP level.

Planned sampling intensity is given in Table 8.1.

Cod in the North Sea
The cod fishery is carried out during all seasons. The landings of cod are made by demersal trawler, gill netters and Danish seiners. All towed gears used are having a mesh size larger than 120 mm. The gill netters are using 130-180 mm mesh size.

As this cod stock is managed under a recovery regime, the sampling level needs to be increased in order to collect adequate data for stock assessment purposes. Therefore, if possible, it is the intensions of sampling at a higher level than prescribed in the DCR. The intension is to sample at the EP level.

In cases where cod appears as by-catch in the small meshed fishery all individuals are sampled, length measured and aged.

Planned sampling intensity is given in Table 8.1.

Plaice fishery
The Danish plaice fishery is mainly taking place in Kattegat, the Skagerrak and the North Sea. A fishery is also conducted in the Baltic. The fishery is carried out by trawlers, Danish seines, beam trawlers and gill netters. The mesh size used by the trawlers depends on fishing areas, as the mesh size regulation differ from area to area.

In the Baltic and the Kattegat and the Skagerrak mesh size used is 90 mm by the trawlers and Danish seiners. Most common mesh size used in plaice fishery in the

North Sea is 120 mm. Gill netters are using different mesh sizes but most common is between 120mm and 150 mm.

Standard sampling procedure as described in section 8 (introduction) will be used when sampling and analysing these plaice samples.

The sampling of plaice follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-4. At least one sample will be collected by size-grade per season.

Plaice in the Baltic
The fishery most common gears used are trawl and gill net. The mesh sizes used are trawl with 110 mm Bacoma exit windows and in gill nets 110-140.

Planned sampling intensity is given in Table 8.1.

Plaice in the Skagerrak and the Kattegat
Plaice is caught both as a target species for smaller trawlers, Danish seiners and gillnet vessels, and as by-catches in the nephrops and cod fishery. The catches are taken all year round and only for human consumption purposes. The gears used in the plaice fishery and in other demersal human consumption fishery are trawls with mesh-sizes at least 90 mm. Gill netters are using 120-150 mm mesh size.

Planned sampling intensity is given in Table 8.1.

Plaice in the North Sea
The fishery for plaice is carried out by a variety of vessel types: trawlers, gill netters, Danish seiners and beam-trawlers. All gears are having mesh-sizes larger than 120 mm. Plaice is landed all year round.

Planned sampling intensity is given in Table 8.1.

Planning of the data collection for eel – length and age samples
The Danish eel fisheries are found throughout the country in fresh and marine waters. Local populations of yellow and silver eels are exploited from April – December by use of poundnets, fykenets, hooks and fixed traps e.g. at the outlet of lakes. A significant part of the Danish catches are migrating silver eels originating from local populations and from the entire Baltic Sea. The silver eels are exploited by coastal pound nets from September to December while passing through the Danish Belts and Straits heading for the North Sea.

The annual catch of silver and yellow eel in the years 2003-2005 were 625-530 tons. The DCR requires one sample of a hundred specimens for each 20 tons landed eel to be age and length measured in 2007. The samples will be collected from the most important catch areas, covering marine and freshwater fisheries, in ICES Fishing Areas IVb – IIId. On locations with both yellow and silver fishery one sample from the summer fishery of yellow eel and one sample from the autumn fishery of silver eel will be collected and analysed. From pure silver eel fisheries only one sample will be collected and analysed. The size range of any sample will be selected to be representative of the total catch for the fishing area in concern. The samples will be bought from the fishermen and brought to the laboratory for length and age analyses.

Nephrops fishery
The Danish Nephrops fisheries takes place in the Kattegat, the Skagerrak and in the central and northern North Sea and is conducted by trawlers using different mesh sizes depending fishing area.

Standard sampling procedure as described in section 8 (introduction) will be used when sampling and analysing these nephrops samples. The sampling of nephrops follows the standard sampling scheme. No size grade is used for this species.

Nephrops in the Skagerrak and the Kattegat (Div. IIIa)
Nephrops is landed all year round and only for human consumption purposes by trawlers using gears with a mesh-size of 90 mm or larger.

Planned sampling intensity is given in Table 8.1.

Nephrops in the North Sea
Nephrops is landed all year round and only for human consumption purposes. Trawlers fishing south of 56^0N are using gears with a mesh-size of 80 mm or larger. The fishery in the northern North Sea is using 120 mm mesh size.

Planned sampling intensity is given in Table 8.1.

Shrimps fishery (Crangon)
Denmark is having a shrimp fishery in the North Sea and in the Skagerrak. The limited number of vessels participating in this fishery is using trawls with mesh sizes of 35-40 mm.

Standard sampling procedure as described in section 8 (introduction) will be used when sampling and analysing these shrimp's samples. The sampling of shrimps follows the standard sampling scheme. No size grade is used for this species.

Deep-sea shrimp in the Skagerrak (Pandalus)
Shrimps (Pandalus) is landed all year round and only for human consumption purposes. Trawlers using gear with a mesh-size larger than 35 mm undertakes the fishery.

Planned sampling intensity is given in Table 8.1.

Deep-sea shrimp in the North Sea
Pandalus is landed all year round and only for human consumption purposes. Trawlers using gear with a mesh-size larger than 35 mm undertakes the fishery.

Planned sampling intensity is given in Table 8.1.

Other demersal fisheries

Sole fisheries
In Denmark a directed sole fishery using gill netters takes place in the North Sea and in the Kattegat. Most of the sole landings from the fishery in Div. IIIa are taken as by-catches in other fisheries, especially the Nephrops fishery.

The sampling of sole follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-3. At least one sample will be collected by size-grade during the high season.

Sole in the Kattegat and the Skagerrak (Div. IIIa)
Sole is caught as a target species for smaller trawlers and gillnet vessels. The bulk of catches are taken during the 2nd to 4rd quarter and only for human consumption purposes. The gears used have mesh-sizes larger than 90 mm.

Planned sampling intensity is given in Table 8.1.

Sole in the North Sea
The Danish share of the total EC share of the sole TAC is 3.8 % and this is less than the threshold of 5 %. Denmark is not obliged to sample this stock. Still length distributions on sole landings will be carried out as the Danish gillnetters exploit other size groups of sole than the beam trawlers.

Sole is caught as a target species for smaller trawlers and gillnet vessels. The catches are taken mostly during the 2nd quarter and only for human consumption purposes. The gears used have mesh-sizes larger than 70 mm.

Planned sampling intensity is given in Table 8.1.

Haddock fisheries in the North Sea and the Skagerrak
Haddock is landed all year round and only for human consumption purposes by trawlers using gear with a mesh-size larger than 120 mm from fishery in the North Sea and 90 mm from fishery in the Skagerrak. Most of the landings are taken as by-catch in other fisheries.

The sampling of sole follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-4. At least one sample will be collected by size-grade during the high season.

Haddock is landed all year round and only for human consumption purposes. Trawlers using gear with a mesh-size larger than 120 mm undertakes the fishery.

In cases where haddock appears as by-catch in the small meshed fishery all individuals sampled will be length measured and aged

Planned sampling intensity is given in Table 8.1.

Hake fisheries in the North Sea and the Skagerrak
Hake is caught as by-catch in the fishery from gill-net vessels using mesh sizes larger than 120 mm and as by-catch in human consumption trawl fishery. Hake is mostly landed during summer.

The combined Danish quota share for hake landings from the North Sea and the Skagerrak is 74 % obliging Denmark to sample this stock. The total Danish landing is significant lower than the quota and the sampling will be adjusted according to the actual landings in 2006.

The sampling of hake follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-4. At least one sample will be collected from each size grade.

Planned sampling intensity is given in Table 8.1.

Saithe fisheries in the North Sea and the Skagerrak
Most of the Danish saithe landings are caught as by-catch in demersal human consumption trawl fisheries using mesh sizes 120 mm or larger. In the Skagerrak the legal minimum mesh size is 90 mm. Saithe is landed all year round only for human consumption purposes.

The sampling of saithe follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-4. At least one sample per size grade will be collected.

Planned sampling intensity is given in Table 8.1.

Anglerfish fisheries in the North Sea and the Skagerrak
Anglerfish caught in the ICES area IV are landed exclusively for human consumption purposes and most of the landings are taken as by-catch in the entire Danish demersal trawl fishery.

The sampling of anglerfish follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-4. At least one sample per size-grade will be collected.

Planned sampling intensity is given in Table 8.1.

Turbot fisheries in the North Sea
The Danish turbot landings are mainly taken during spring and summer by gill-net vessels using mesh-sizes larger than 200 mm. Turbot is also taken as by-catch in the fishery from vessels using either gill-net vessels or bottom trawls.

The sampling of turbot follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-4. At least one sample per size-grade will be collected.

Planned sampling intensity is given in Table 8.1.

Lemon sole fisheries in the North Sea
The fishery for lemon sole is carried out by a variety of vessel types: trawlers, gill netters, Danish seiners and beam-trawlers. All landings are by-catch landings and landed all year round.

The sampling of lemon sole follows the standard sampling scheme, however it is performed by the size-class stratification defined in EC standards from 1-2. At least one sample per size-grade will be collected.

Planned sampling intensity is given in Table 8.1.

8.1.3 Small meshed fishery (Fishery for reduction purposes)

Sandeel fishery
The Danish sandeel fishery is mainly taking place in the ICES area IV and are landed exclusively for reduction purposes and the fishery is undertaken by trawler using bottom-trawls with mesh-sizes less than 16 mm. Sandeels are landed from early spring to late summer. A limited fishery also takes place in the Skagerrak.

Standard sampling procedure as described in section 8 (introduction).

Planned sampling intensity is given in Table 8.1.

Sprat fishery
The Danish fishery for sprat takes place in the Baltic, the Kattegat, the Skagerrak and in the central and southern North Sea and is conducted by trawlers using different mesh sizes of 16 mm. All the landings are used for reduction (meal and oil production).

Standard sampling procedure as described in section 8 (introduction).

Sprat fishery in the Baltic
The Danish sprat fishery in ICES area IIIb-d is mainly landed for reduction purposes. The catches are mainly taken during the period from November to March.

Planned sampling intensity is given in Table 8.1.

Sprat fishery in Division IIIa
Small to medium sized trawlers using mesh sizes less than 32 mm participate in the sprat fishery. The landings are exclusively used for reduction purposes. Most catches are made during the 2nd and 4th quarter.

Planned sampling intensity is given in Table 8.1.

Sprat fishery in the North Sea
Trawlers using mesh-size less than 32 mm conducts this fishery and all landings of sprat are landed for reduction purposes during the period from August to March.

Planned sampling intensity is given in Table 8.1.

Blue whiting fishery
Blue whiting is landed all year round exclusively for reduction purposes. In the directed fishery for blue whiting trawl with a mesh size of 40 mm is used. Blue whiting is also caught as by-catch in the Norway pout fishery and in this fishery trawls with a mesh-size less than 32 mm are used.

The Danish quota share of the total EC shares depends on management areas and is the following:

- Zone: I, II (Norwegian waters) 0 %
- Zone: IV (Norwegian waters) 95 %
- Zone: I, II, III, IV, V, VI, VII, VIIIabde, XII, XIV (EC and international waters) 15 %

- Zone: VIIIc, IX, X, CECAF 34.1.1 (EC waters) 0 %
- Zone: VIb (Faroese waters) 44 %

These quota shares oblige Denmark to sample this stock.

Standard sampling procedure as described in section 8 (introduction)

Planned sampling intensity is given in Table 8.1.

Norway pout fishery
Norway pout fishery is mainly taking place during autumn and winter and mainly taking place in the northern North Sea. A limited fishery also takes place in the Skagerrak.All the landings are made by demersal trawlers using 16-18 mm mesh size. All landings are used for reduction purposes.

The fishery has been closed in 2005 and it is at present not known whether a fishery will be opened in the autumn of 2006.

Standard sampling procedure as described in section 8 (introduction)

Planned sampling intensity is given in Table 8.1.

Horse mackerel fishery
Most of the Danish catches of horse mackerel are taken as by-catch in the small meshed fishery which is carried out mainly by large trawlers during winter and landed for reduction purposes.

The purpose is to estimate the number of fish and their mean weight at age of horse mackerel from ICES area IV landed in Denmark. However, a target-oriented sampling is not possible as horse mackerel only appears as by-catch in landings for reduction purposes.

Planned sampling intensity is given in Table 8.1.

Other EC-members states landing in Denmark.
Sampling of landings in Danish harbours by other EC-members will be conducted by Denmark. The sampling principles and frequency will be the same as for national landings.

8.2 MP - Landings - Derogations and non-conformities

The Danish pandalus quota for Div. IIIa has not been taken for a number of years. The planned sampling (table 8.1) is set according to the expected landings in 2007 instead of set according to the 2006 quota. Therefore, Denmark asks for derogation for the required sampling level of pandalus in Div. IIIa in 2007.

Danish landings of dab, whiting and flounder from fishery in Div. IIIa and Sub-area IV have for a number of years been significant lower than the Danish quota for these species. The actual landings are lower than the 5% of the total international landings. Therefore, Denmark asks for derogation for sampling length and age for whiting, dab and flounder in Div. IIIa and Sub-area IV in 2007.

The Danish sandeel fishery for the 2003-2005 has been significant lower than prior to this period. For 2006 an in year revision or quota setting for sandeel has been agreed by the Council and no quota has yet be set. The same situation may occur in 2007. The planned sampling of sandeel in 2007 (table 8.1) has been set according to a quota of 300,000 tonnes. The Danish sampling will be adjusted according to the actual fishery in 2007.

8.3 EP – Landings - Planned sampling

No application for EP

8.4 EP – Landings - Non-conformities

None

8.5 MP & EP - Discards - Planned sampling

The observers participating on commercial fishing vessels for recording discards are following guidelines where, if possible, all biological information from the catch will be sampled from each station.
The data recorded are:

- Total weight of discard and landing by all species caught.
- Separate length distributions of discard and landings by all relevant species caught.
- Otoliths and individual mean weight per cm-length group of selected species.

All data recorded in connection with the collection of discard are included in a national central database (see Section 12) holding all biological catch data collected by DIFRES.

8.6 MP & EP - Discards - Derogations and non-conformities

None

9 Module I – Other biological sampling

9.1 MP- Planned sampling

Concerning the 'Other biological sampling' outlined in the DCR Chapter III I. (1) the parameters in Sections (1) (a) (i) and (iii) will be sampled during surveys on all species as the samples of the commercial landings either are in such condition that histological measures are impossible or that the sampling is performed on gutted fish. However, samples of herring and sprat are subject to the parameters mentioned in Sections 1 (a) (i) and (iii) as an improvement of the estimation of spawning stock biomass and recruitment to the spawning stock is of striking importance for the assessment of these stocks.

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

The purpose of the other biological sampling is to estimate on a yearly basis the distribution of sex, maturity and per age. A number of species are landed gutted and therefore it is only possible to do during R/V surveys. For cod, haddock and saithe sexual maturity is routinely collected.

For those species which is landed whole sexual maturity data is collected for in addition to the standard data collection for Norway pout, mackerel, sandeel, nephrops, pandalus, herring and sprat. Data collection is either on harbour samples or at R/V surveys.

At the ICES IBTSWG meeting in 2006 it was agreed for 2007 that in order to improve international co-ordination maturity data should be collected for a number of species.

For the data collection in 2007 is was agreed for the IBTS North Sea and Division IIIa that hake, sole, black-bellied angler, anglerfish, lemon sole, plaice, turbot, horse mackerel should be sampled for sexual maturity.

Planned sampling intensity is given in Table 9.2 and Table 9.3.

Special conditions
For herring caught in the eastern North Sea, the Skagerrak and the Kattegat sampling is also carried out in order to determine the spawningtype of the individual herring.

The herring population in this area is composed of 3 stocks, and the sampling is performed on the following categories (Article 11.1.a.ii):

- Autumn spawners from the North Sea.
- Spring spawners from the Western Baltic.
- Winter spawners both from the English Channel and local populations.

Assessments are done on these spawning types. The spawning type is determined from the otoliths following an intern manual (Mosegaard, H, L.A. Worsøe, and M. Lindberg 1999)

9.2 MP- Derogations and non-conformities

As Denmark is not conducting any research vessel survey in areas and periods where data on fecundity for mackerel and horse mackerel can be collected, Denmark asks for derogation for collecting the data.

9.3 EP- Planned sampling

No application for EP

9.4 EP- Non-conformities

None

10. Module J - Economic data on fishing vessels.

The Danish programme for collection of economic data by groups of vessels 2007 is a continuation of the programme implemented over the previous years. Nevertheless the data collection system has to be restructured in order to stay tuned according to changing circumstances in the fishing industry.

From January 1st 2007 a new fishery management scheme in the Danish fishery will be implemented, where all commercial fishing vessels will have an individual %-share of the quota of all quota species. The new management system will cause an adjustment in the fleet structure, which is not entirely transparent, although some changes might be as expected. The years of transition 2006/2007 constitute a challenge to the sampling programme for economic data for fishery, which has to be met by temporarily increasing the sample size.

Also the database system for the account statistics will be changed to ensure an appropriate flexible handling of the accounts during the transition period and in the succeeding years.

10.1. MP - Planned sampling

The Danish programme will be completed by two sources of data. The first being data from the administrative and statistical registers of the Directorate of Fisheries (FD) and the second data from sample statistics compiled at the Institute of Food and Resource Economics (FOI).

The administrative and statistical registers in FD are the basic source to information about the Danish fishery. The registers relevant to the collection of economic information for groups of vessels are: the Register of Fishing Vessels, the Register of Fishermen/Vessel Owners, the Sales Note Register and the Logbook Register. These registers are fully comprehensive in the sense that all fisheries related activities are registered for all individuals, which means that statistical analysis based on the registers can cover all activities in the fishery and on the first-hand market for fish (e.g. the official fishery statistics).

Cost data, financial information and information on factor input like fuel consumption and labour input are not registered in the FD's register. These data are collected by FOI on the yearly accounting forms. FOI obtains each year an extract from the FD registers containing information on all active vessels for the year before. This extract is used to analyse and stratify the population of fishery units before the sample for the year is drawn. The population for 2006 will be stratified according to the new fleet segmentation laid out after the proposal of the Nantes working group on fleet based approach and according to economic size.

What data will be collected?
All data on the accounting form refers to a "fishery unit" defined as a Fisherman or Fishing firm with one separately operating vessel that is a vessel which is active in fishery and has its own separate crew. When a Fishermen or Fishing firm owns more than one separately operating vessel, the account for that economic agent is split into separate accounts for each fishery unit.

Data collected for the DCR (Appendix XVII):

Income (turnover): The total revenue or Gross output for the year includes both value of landings, subsidies and other sources.

Production costs:

- *Crew (include social cost):* wages and salaries to all employees including owners/partners.
- *Fuel:* fuel costs excl. duties and bonus/discount, fuel quantity in litres.
- *Repair and maintenance:* maintenance of all physical fishing assets, various articles/stores.
- *Other operational costs:* landing and sales costs, rent of equipment, purchase of fishing rights, insurance, service, administration.

Fixed costs (average cost calculated from investment): depreciation and net interest expenditure.

Financial position (share of own/foreign capital): debt as a percentage of total assets (end of year).

Investment (asset): total value of physical capital beginning of the year including fishing rights.

Prices/species: Live weight quantities and first hand value per species.

Employment (full time/part time/FTE): number of men, number of days and hours worked.

Fleet: data from the Register of Fishing Vessels.

- *No:* number of fishery units (vessels).
- *GT:* Gross tonnage (for main operating period if GT is changed during the year).
- *kW:* kilowatt engine power (for main operating period if kW is changed during the year).
- *Age:* number of years from year of construction of vessel to operating year.
- *Gear used:* Main gears from the vessel register.

Effort (relevant unit accounting for technology and time): Vessel days at sea.

Who the data will be collected from?

In order to ensure an adequate data quality FOI is collecting data from the fisherman's professional accountants. Furthermore there are several steps taken to achieve the best possible measures for the economic data.

- A full balanced accounting form to ensure, that the data on the individual level is 100% correct.
- A beforehand obtained consent from the fishermen to allow their accountants to report all necessary data to avoid participation from a biased population of fishermen.
- Co-operation from professional accountants to achieve the best possible harmonized data.
- Full knowledge of the fishing activity of each individual vessel and fisherman.

- Make use of actual fishing activity in the selection process and the weighting scheme and thereby avoid miscalculation and vaporous estimates.
- Improving the calculations by using full scale survey for specific fleet segments like purse seiners and beam trawlers.
- Taking substitutes that match the categorization criteria when a selected fishery unit (vessel) has to be cancelled (less than 4% of the selected sample).
- Calculating statistical weights for each account in the sample by using known measures of vessel activity for row and column aggregates in the categorization matrix as targets in a quadratic goal programming model.

For the last five years FOI has collected about 310 accounts per year. In 2007 we expect to increase the sample size (accounts for 2006) significantly in order to prepare for construction of a new sampling scheme for the operational year 2007. The sample size for 2006 and 2007 will be set at a level that ensures continuation of the statistical calculations for all relevant fleet segments allowing for the impact on the structure of the fishing fleet caused by implementation of a new management system from January 1st 2007. The necessary sample size could be about 400 accounts, though it can not be estimated before the actual population for 2006 has been surveyed, and that is scheduled to February/March 2007 when all data for 2006 has been processed on the FD registers.

We already know that several fishermen have bought vessels from their colleges in order to increase their quota shares. The fisherman is allowed to buy up to four vessels and then fish the whole quota from one vessel, but he cannot scrap three of the vessels, because then he would loose the quota share for the scrapped vessels. Therefore the structure and size of the population for 2007 of commercially active vessels is so far very uncertain.

How the data will be collected?

The coherent structure of economic data makes it necessary to be able to validate all variables for each individual economic agent both in detail and consistently combined with other variables. The best way to do that is by setting up a balanced account. Therefore FOI has constructed a harmonized accounting form for fishery, which ensures that the data is broken down to meet the requirements of the Account Statistic for Fishery as well as the specifications in the DCR.

Specific information on the contents of the economic variables is listed below.

Income (turnover):

- Gross value of landings (total and per species).
- Additional payments regarding production from earlier years.
- Received/handed over amounts to cover landings by/for other vessels (pair-trawling).
- Other fishery income, for instance sale of self made gear.
- Leasing or hire out of vessels and other operative assets.
- Other sources, for instance salvage money.
- Subsidies, for instance for participation in research fishery.

Production costs - crew (include social costs):

- Salary to other partners/shareholders

- Salary to hired skipper
- Salary to hired crew (including pension)
- Paid/received salary from other vessels for instance when pair-trawling (+/-)
- Subsidies and repayments e.g. for trainees or long-term unemployed (-)
- Other personnel expenses (insurance, social expenses etc.)
- Salary to the owner/fisherman (skipper/owners share)

Production costs - fuel:

- Fuel costs excl. duties.
- Bonus and discount on fuel (-).
- Fuel quantity (Litres).

Production costs - repair and maintenance:

- Maintenance of vessel, hull etc.
- Maintenance of engines and winches.
- Maintenance of electronic equipment.
- Maintenance of fishing gear (purchase should be added to assets).
- Maintenance of land-based plants and equipment, e.g. truck or van.
- Stores, various articles for consumption.

Production costs - other operational costs:

- Other expenses on energy and lubrications excl. duties
- Tax and duties on energy
- Ice, salt and bait etc., used on the fishing vessel
- Provisions
- Harbour dues, pilot service and brokerage
- Collecting, sorting and auctioneering
- Packing, chilling and freight
- Other landing service costs (not hired crew)
- Landing service provided by own crew (not included in crew share/salary)
- Market regulation fees
- Subscription to fishermen's union, fishery duties
- Purchase of fishing rights or quotas (incl. quota in 3'rd country fishing zones)
- Rent of equipment, incl. leasing for a period less than a year
- Rent of buildings (gear sheds), incl. leasing of less than a year
- Insurance of vessel, equipment and fishing gear etc.
- Other expenses on insurance (land-based plants, van, liability etc., excl. personnel insurance).
- Administration, accounting etc.
- Communication, telephone etc. (exclusive private use)
- Operating share of cost on private vehicles (exclusive depreciation)
- Other service costs
- Tax on real property (fishery assets)

Fixed costs:

- Depreciation on vessel, hull etc.
- Depreciation on engines and winches
- Depreciation on electronic equipment
- Depreciation on fishing gear

- Depreciation on van, truck etc.
- Depreciation on buildings (gear sheds etc.)
- Operating share of depreciation on private vehicles etc.
- Net interest expenditure (recorded by 10 variables)

Financial position:

- Financial (debt / assets) recorded by (7 + 14) variables both beginning and end of year

"Investment" (assets): Value at the beginning of the year.

- Value of vessel, hull etc.
- Value of engines and winches
- Value of electronic equipment
- Value of fishing gear
- Value of van, truck etc.
- Value of buildings (gear sheds etc.)
- Value of stocks, for instance storage of fuel
- Value of fishing rights (IQ, ITQ)

Complement to the value at the beginning of the year regulation due to price changes, investment (purchase minus sale) during the year and depreciation are entered the accounting form, whereas the value at the end of the year is calculated.

Prices (species):

- Value of landings by species
- Quantity measured as live weight quantity in accounting form.
- 51 main species/species groups in the accounting form.

Employment (FTE):

- Number of men (persons)
- Number of (men * fishing trips)
- Number of (men * days at sea)
- Average number of hours worked per day at sea
- Number of (men * working days at land)

10.2. MP - Derogations and non-conformities

No derogations or non-conformities are expected for the 2007 programme.

10.3. EP – Planned sampling

Denmark has no extended program for 2007

11. Module K – Data concerning the fish processing industry

The data collection program and budget for 2007 is based on the data collection program for 2006.

11.1. MP – Planned sampling

Definition of population
In this investigation the Danish fish processing industry is defined by the Business Register. In the Business Register the fish processing industry is defined by the NACE code 15.20.

NACE code 15.20 includes:

NACE 15.20.10 – Fish processing and preservation
NACE 15.20.20 – Smoking, curing and salting of fish etc.
NACE 15.20.30 – Fish meal factories

The Danish data collection is based on data collected by Statistics Denmark. In collaboration with Statistics Denmark data from the Industrial Commodity-, Account- and Raw Materiel Statistics is work up to comply with the demands, that are listed in the DCR.

Segmentation
The data from the Industrial Commodity Statistics have been examined to disclose the possibility to define homogenous sub branches in the sense of input of raw material and output of commodities from the existing branches in the Danish fish processing industry (NACE 15.20.10-30). The purpose of creating these new sub branches of enterprises is to provide yearly time series data of the processing industry, which reflect the physical and economic data from the primary sector.

FOI has examined the composition of commodities from each enterprise in the processing industry for the years 2000 until 2004. This investigation has provided the background for dividing the enterprises into 13 sub branches on the basis of the enterprise's commodity production (see 11.1). The first criteria for the division of the sub branches is the species that the enterprise processes and secondly the degree of processing. From these 13 sub branches it will probably be possible to evaluate the supply of raw materiel going into the processing industry from the Danish market and from abroad. The 13 sub branches also reflect the most important species in the Danish primary sector, and if there is a change in the supply of raw material, it will probably reflect on these groups. The 13 sub branches will probably also reflect the social and economic impact, on the processing industry of measures taken on behalf of the common fisheries policy.

The analysis of the Industrial Commodity Statistics for 2003 represent 75 Kind of Activity Units with a total sales of commodities of approximately EUR 1.3 billion, which covers 99 % of the total sales of commodities in the Account Statistics. The Account Statistics covers all enterprises in the Danish fish processing industry.

For the present the analysis of the "purity" of the processing industry suggest, that the "purity" is very high, which means that most, more than 90 %, of the commodities, which contain fish or fish products are produced in the branches defined by NACE 15.20.10-30.

Planned sampling
The planned sampling covers the whole population defined by the Business Register NACE 15.20 based on the data collected by Statistics Denmark in the following 3 statistics.

The Account Statistics covers all business enterprises. Data for the Account Statistics is collected from different sources and combined in such a way that a complete set of accounting items is computed for each business enterprise.

The Industrial Commodity Statistics describe manufacturers' sales of commodities measured in volume and value. The Industrial Commodity Statistics are based on questionnaires. It covers industrial enterprises with at least 10 fulltime-employees.

The Raw Material Statistics describes the use of raw materials, semi-manufactured- and intermediary products, purchase of services, packing costs and use of water in the production of industrial commodities. It covers industrial enterprises with at least 50 fulltime-employees.

11.1.1 What data will be collected?

Economic parameters listed in the DCR appendix XIX. See paragraph 11.1.3 for a more detailed definitions.

- **Raw material (volume)**

The data on volume for raw materiel is not yet available, but data can be calculated from the Industrial Commodity Sales Statistics (see definition 11.1.3).

- **Income (turnover)** represents the net sales.

- **Production costs**

- Labour
- Energy
- Raw material is divided into 3 subcategories
    - **Raw material fish** contains fish and fish product auxiliaries.
    - **Packaging** purchased as raw material.
    - **Resale commodities** purchased as raw material for resale without transformation.

- Other running costs include payments for agency workers, subcontracts, rents, minor inventories, and leasing, ordinary losses on debtors, other and secondary expenses.

- **Fixed costs (Depreciations)** includes write offs and write downs.

- **Financial position** is the share of Net capital calculated from the Total liabilities.

- **Investment (Assets)** current prices. The Perpetual Inventory method is used.

- **Price/Product** is calculated from the Industrial Commodity Statistics, which covers 99% of the total sales of commodities in the Danish fish processing industry

- **Employment** is equal to full-time equivalents (FTE).

In addition to the required economic parameters FOI also collects the following economic indicators. (See definition 11.1.3)

- **Other income**
- **Financial costs, net**
- **Extraordinary costs, net**
- **Taxes**
- **Investments (Gross investments in tangible goods)**
- **Numbers of enterprises**

11.1.2 Who the data will be collected from?

Definition of population
The Danish fish processing industry is defined by the Business Register. In the Business Register the fish processing industry is defined by the NACE code 15.20.

NACE code 15.20 includes:

NACE 15.20.10 – Fish processing and preservation
NACE 15.20.20 – Smoking, curing and salting of fish etc.
NACE 15.20.30 – Fish meal factories

The data collection is based on data collected by Statistics Denmark. In collaboration with Statistics Denmark data from the Industrial Commodity-, Account- and Raw Materiel Statistics is work up to comply with the demands, that are listed in the DCR.

Contents of the Account Statistics
The statistics are essentially aggregations of items of the annual accounts of business enterprises, notably items of the profit and loss account, the balance sheet and the statement of fixed assets. Thus, a wide range of subjects are covered, e.g. turnover, purchases, expenses, profits, assets, liabilities and investment.

The accounts statistics are a reliable indicator of the activity level and of the structure of the Danish business sector. The highest data quality is achieved at the enterprise level, primarily because the enterprises prepare their annual accounts at that level. But also at the establishment level the published results for major activity groups and for counties are highly reliable.

Source: The Statistics are based on questionnaires, The Central Customs and Tax Administration (SLS-E data), the business register. The population is defined on the basis of Statistic Denmark's Central Business Register covering all businesses in Denmark (ESR).

Complete set of accounts: The data collected from all sources are combined in such a way that a complete set of accounting items is computed for each business enterprise.

A. Direct surveying. The most thorough coverage is extended to the enterprises that are selected for direct surveying. They are given the choice of either filling in a lengthy questionnaire or submitting their annual accounts plus detailed specifications. The questionnaire is modelled on the list of items set out in the Danish annual accounts legislation, so as to facilitate responding. The data obtained by direct surveying are keyed into a data entry system which comprises error detection and

verification procedures. Thus, the data are checked for accounting inconsistencies, and warning messages are written out if significant deviations are found when comparing with last year's data or with figures for enterprises in the same stratum (form of ownership / activity / size group). Frequently the respondents are contacted for clarification.

B. The SLS-E system of the Danish tax authorities does not comprise so many items as Statistics Denmark's questionnaire, but the quality of the data is regarded as high, because they are used for individual tax assessment. By stratified imputation the data aggregates of the SLS-E system are distributed among the more detailed items, and in the opinion of Statistics Denmark the resulting item values are reasonably reliable for profit and loss account as well as balance sheet. The SLS-E system does not include information about investment (spending on fixed capital).

C. The enterprises that are not covered by the sources A and B are mainly small enterprises, so the available information is limited. For these enterprises stratified imputation based on employment size groups is used to fill out the missing information.

The reporting unit is the Kind of Activity Unit which is the total sum of workplaces engaged in the same economic activity (industry).

Industrial groupings: Kind of activity. This concept, which is sometimes termed branch or industry, refers to the 6-digit code numbers found in the Danish activity classification DB03, which is based on the European NACE nomenclature.

Contents of the Industrial Commodity Statistics

The industrial commodity statistics describe manufacturers' sales of commodities measured in volume and value. In addition to this the statistics comprise a survey of the commodity sales distributed by industries.

The Statistics are based on questionnaires. The population is defined on the basis of Statistic Denmark's Central Business Register covering all businesses in Denmark (ESR).

Survey population: The statistics cover industrial enterprises with at least 10 fulltime-employees as well as sales of enterprises registered as non-industrial enterprises, but with workplaces within manufacturing and with at least 10 fulltime-employees, are included in the statistics.
The reporting unit is the Kind of Activity Unit which is the total sum of workplaces engaged in the same economic activity (industry).

The value is calculated as invoice sales ex factory or free delivery inside Denmark. Turnover taxes and production taxes are excluded from the sales value. Invoiced discounts are deducted. General packaging, freight charges and insurance costs are included if they can be distributed to individual commodities.

The total turnover is divided into different kinds of sales
- Sales of own commodities, i.e. commodities which are manufactured, processed or assembled by the enterprise itself.

- Construction work done for other enterprises, where the other enterprises own the machinery etc., which relates to the work involved in mounting.
- Reconditioning and mending for other enterprises, where the other enterprises own the machinery.
- Paid work (contract work) performed for other enterprises, where the other enterprises own the raw materials etc.
- Commercial turnover or resale turnover
- Other turnover including income from licences, commissions, income from know how etc.

Information on quantities is declared as net weight, including the wrapping normally used when the commodity is sold in the retail trade. The transport packaging is not included.

Industrial groupings: Enterprises are grouped in the 4-digit NACE-classes and in the more detailed 6-digit DB03 national branch grouping based on NACE.

Commodity nomenclature: The commodities are grouped in a 10-digit nomenclature based on the 8-digit Combined Nomenclature (CN). The first 8 digits in the commodity nomenclature are always identical with the CN.

Contents of the Raw Materiel Statistics

The survey describes the use of raw materials, semi-manufactured- and intermediary products, purchase of services, packing costs and use of water in the production of industrial commodities.

The statistics contain a survey of the raw materials etc. distributed to groups of industries.

The Statistics are based on questionnaires. The population is defined on the basis of Statistic Denmark's Central Business Register covering all businesses in Denmark (ESR).

Survey population: The statistics cover industrial enterprises with at least 50 fulltime-employees. Enterprises with more than 20 but under 50 fulltime-employees are added to the population in industrial groups with only a few enterprises with at least 50 employees.

Industrial groupings: The survey is based on the 6-digit Danish Branch nomenclature of which the 4 first digits are the NACE nomenclature.

Commodity groupings: The raw materials etc. are collected on basis on the 8-digit CN nomenclature also used in External Trade Statistics. The first 4 digits of the CN are used as basis in the raw material nomenclature.

11.1.3 How the data will be collected?

Definitions of parameter

- **Raw material (volume) (Calculated from the Industrial Commodity Sales Statistics)**

The data on volume for raw materiel is not yet available, but data can be calculated from the Industrial Commodity Sales Statistics. The Institute is looking into other methods of collecting this information, as an example it will be disclosed, if it is possible to get the information through the questionnaire already presented to the enterprises in the processing industry by Statistics Denmark or directly from the company accounts.

- **Income (turnover) (Company account)**

- Income (turnover) represents the net sales. Included are capitalised work performed by the enterprise for own purposes and all charges (transport, packaging, etc.) passed on to the customer. Excluded is reduction in prices, rebates, discounts, and VAT and excise duties. Income classified as other operating income, financial income and extraordinary income in company accounts is also excluded from turnover.

- **- Other income (Company account)**

Include other operating income exclusive of turnover, financial- and extraordinary income in company accounts. Contains other secondary working profits, and changes in stock goods.

- **Production costs (Company account)**

- Labour cost is defined as the total remuneration, in cash or in kind, payable by an employer to an employee (regular and temporary employees as well as home-workers) in return for work done by the latter during the reference period. Personnel costs also include taxes and employees' social security contributions retained by the unit as well as the employer's compulsory and voluntary social contributions. These include employer's social security contributions to schemes for retirement pensions, sickness, maternity, disability, unemployment, occupational accidents and diseases, family allowances as well as other schemes. These costs are included regardless of whether they are statutory, collectively agreed, contractual or voluntary in nature. Payments for agency workers are not included in personnel costs.

- Energy includes purchases of all energy products during the reference period for electricity, heating and production. Fuel for vehicles is not included.

- Raw material is divided into 3 subcategories

- **Raw material fish** contains fish and fish product auxiliaries.
- **Packaging** purchased as raw material.
- **Resale commodities** purchased as raw material for resale without transformation.

- Other running costs include payments for agency workers, subcontracts, rents, minor inventories, and leasing, ordinary losses on debtors, other and secondary expenses.

- Fixed costs (Depreciations) includes write offs and write downs.

- Financial costs, net includes income and expenses from interest and returns from capital assets

- Extraordinary costs, net include extraordinary income and expenses.

- Tax includes all taxes.

- **Financial position (Calculated from company account)**

- Financial position is the share of Net capital calculated from the Total liabilities.

- **Investment (Assets) (Company account)**

- Assets current prices. The Perpetual Inventory method is used. "The Perpetual Inventory Method" (PIM) generates an estimate of the capital stock by accumulating past purchases of assets over their estimated service lives. The standard, or traditional, procedure is to use the PIM to estimate the gross capital stock, to apply a depreciation function to calculate consumption of fixed capital and to obtain the net capital stock by subtracting accumulated capital consumption from the gross capital stock."

- **Investment (Gross investment in tangible goods) (Company account)**

- Investment during the reference period in all tangible goods. Included are new and existing tangible capital goods, whether bought from third parties or produced for own use (i.e. capitalised production of tangible capital goods), having a useful life of more than one year including non-produced tangible goods such as land. The threshold for the useful life of a good that can be capitalised may be increased according to company accounting practices where these practices require, a greater expected useful life than the one-year threshold indicated above.

All investments are valued prior to (i.e. gross of) value adjustments, and before the deduction of income from disposals. Purchased goods are valued at purchase price, i.e. transport and installation charges, fees, taxes and other costs of ownership transfer are included. Own produced tangible goods are valued at production cost. Goods acquired through restructuring (such as mergers, take-overs, break-ups, split-off) are excluded. Purchases of small tools which are not capitalised are included under current expenditure.

Also included are all additions, alterations, improvements and renovations which prolong the service life or increase the productive capacity of capital goods.

Current maintenance costs are excluded as is the value and current expenditure on capital goods used under rental and lease contracts. Investments in intangible and financial assets are excluded.

- **Price/Product (Calculated from the Industrial Commodity Sales Statistics)**

- Price/product is calculated from the Industrial Commodity Statistics, which covers 99% of the total sales of commodities in the Danish fish processing industry.

- **Employment (Company account)**

- Employment is equal to full-time equivalents (FTE).

- **Number of enterprises (Company account)**

11.2 MP – Derogations and non- conformities

It have not been possible to show all 13 new sub branches in table 11.1, because the population in these branches is too small, that there will be problems referring to

confidentiality of the data given by the industry. Instead following sub branches is merged “Prepared or preserved product industry” for mackerel (15.20.13) and herring (15.20.16), “primary- and secondary industry” for herring (15.20.14) and (15.20.15), “Prepared or preserved products industry” for molluscs, shrimps and crustaceans (15.20.17) and (15.20.18).

There will be a need for a more detailed investigation of the connection between “Kind of Activity Units” in the Industrial Commodity Statistics and “Enterprises” in the Account Statistics and how they are distributed into the 13 sub branches. There will also be a need for investigating how many fish processing enterprises there are placed into other branches than NACE 15.20 due to multi-activities.

Raw material volume can be calculated from the output of the enterprises, presented in the Industrial Commodity Statistics, but FOI are still working to improve the calculation-model for the raw material volume.

11.3 EP – Planned sampling

Denmark has no extended program for 2007

11.4 EP – Non conformities

Denmark has no extended program for 2007

12 Databases

12.1 Database development and data management

Primary data collected under the Danish programme will be stored in the following computerised databases:

- Vessel register. Data on fishing capacity. (FD)
- Logbook database. Data on origin of catches and on effort. (FD)
- Sales notes database. Data on quantities landed and prices. (FD)
- Species composition database. Data on species composition in landings for industrial purposes. (FD)
- Biological database. Data on discards and biological parameters. (DIFRES)
- Economic data. (FOI)

In order, for the three involved institutes, to use the same primary data on capacity, effort, and geographical distribution of the origin of the landings a common database will be produced every year, the Danish Fisheries Analyses Database (DFAD). This database is a database where data from the register on Danish fishing vessels, data from the Danish logbooks and the catch area declarations database together with data from the Danish sales notes database are merged. It is therefore possible to categorise each landing in one fleet segment, in one fishery etc. This database contains most of the information requested in research projects and in relation to fisheries management. The DFAD is quarterly and yearly updated. The design and development of the database is made in a co-operation between the three above mentioned institutes.

Biological data will be collected by DIFRES and stored in a database ("Babelfisk") managed by the institute. These data are surrounded by confidentiality and will not be passed on to other persons or authorities without permission.

Economic data will be collected by FOI and stored in a database managed by the institute. These data are surrounded by strict confidentiality and will not in any circumstance be passed on to other persons or authorities. Each year FOI produces an analytic file on the individual level, which includes relevant data for stratification and grouping for statistical purposes. Based on the analytic file a number of statistical files will be produced and made available for external users.

All data collected under the programme are dealt with in confidence. Accesses to the data are limited to authorised staff members from the three institutes and no one outside the institutes has access to the data without permission.

12.2 International database development and data management

"FishFrame"

The international database "FishFrame" is a further development of BALTCON, which originally was developed during the EU Study programs establishing the internationally coordinated discard sampling program in the Baltic area (Program no. 94/058, 96/002, 98/024). When these Study Programs ended, DIFRES saw the potentials in a further development and continued the development in close connection with the Baltic Assessment Group (WGBFAS).

The "FishFrame" is a web based database and warehouse application that can be accessed on www.FishFrame.org.

The main objectives of "FishFrame" are:

1. To provide consistent centrally calculated biological data input across countries to assessment models (CANUM, WECA etc.) on dynamic aggregation level.
2. To establish a logbook which describes the historical details of the raising procedure.
3. To facilitate easy access to basic analysis of biological information on dynamic aggregation level.
4. To provide the data background for additional analysis on un-aggregated data.
5. To provide an easy overview of the sampling status on national and international level.

"FishFrame" contains all fisheries assessment relevant data except data for establishing commercial tunings fleets. The assessment relevant data include:

- Biological information of the landings obtained by sampling from market.
- Biological information of the catch (discard as well as retained part compiled separately) obtained by observers participating in regular fishery.
- Biological information of the catch (discard as well as retained part compiled separately) collected by the fishermen themselves.
- Official landings statistics by two different aggregation levels.
- Effort statistics by two different aggregation levels.
- Scientific survey data (BITS) on exchange format.

The “FishFrame” data warehouse is under continuous development and the number of available predefined dynamic reports and analysis are growing as a consequence of the increasing demands for functionality from various Assessment Working Groups Study Groups. Furthermore, the general request from managers for high quality and more transparency in data makes “FishFrame” a central tool in the process. The “FishFrame” has the potential to be a very important tool for the international coordination of sampling schemes and have already proved its value in the Baltic area as a very useful and convenient tool for analyzing of data. Both the Baltic and the North Sea Regional Coordinating Meeting (RCM) have expressed their support to the “FishFrame”.

The RCM North Sea considers that progress on improving the effectiveness of sampling, integration of data between countries and provision of high quality information to the ICES assessment Working Groups is heavily dependent on the use of a common database. The view of the RCM North Sea was that FishFrame is already developed to provide the necessary flexibility in data access, analysis and data security that is felt to be essential for the short term future needs of the group.

13 National and international co-ordination

13.1 National co-ordination

The Danish Institute for Fisheries Research is acting as coordinator for the Danish Programme. A Steering Group has been established with members from all three institutes or directorates involved in the programme. The main objective of the Steering Group is to coordinate of the work under the programme.

DIFRES and FOI have direct access to the databases in FD. As DIFRES and FD are having a significant advisory work for the Ministry for Food, Agriculture and Fishery the day to day co-operation works very smoothly and efficient. Another advantage is that both FD and the main centre of DIFRES are situated in the Copenhagen area.

DIFRES is having a department in Hirtshals and due to IT solutions contact between Hirtshals and Charlottenlund works satisfactorily.

13.2 International co-ordination

Denmark has for a number of years been the key-player in international coordination and cooperation of the data collection in the Baltic Sea. This cooperation has been further developed and will continue. Within the ICES Planning Group for Commercial Catch, Discard and Biological Sampling (PGCCDBS) Denmark has been very active as well in carrying out the joint EU Acoustic Survey in the Norwegian Sea. Denmark will actively participate in most of the international planning, cooperation and coordination group meeting held in 2007.

Collection of information on fishing capacity, fishing effort, economic and landings statistics are carried out entirely on a national basis. Biological information on catches, information collected by research vessels and information on discards are in

most cases coordinated internationally and carried out in close cooperation with research institutes in Member States and third countries.

In 2003 DIFRES started an intense co-operation and coordination of the sampling of biological data in the Baltic with Institute of Marine Research in Karlskrona, Sweden. In the beginning of 2005 a cooperation agreement with Institute of Marine Research, Lysekil was signed. This cooperation agreement covers all fishing areas of mutual interest of Sweden and Denmark. Same sort of agreement has been agreed with Germany. Same initiatives will be initiated with Poland in 2007. Initiatives for further development will be initiated. It is the plan to establish the same kind of co-operation with other North Sea countries.

Denmark has made agreements with Sweden and Germany on collection of biological sampling of landings. The agreement with Sweden is attached as annex I and Germany as annex II. The agreement with Germany is the 2005-2006 agreement which has been continued.

In the economic field FOI constitutes the Danish representative in the project economic Assessment of European Fisheries organized under the Concerted Actions and Thematic Networks which is committed to develop a common method or standard for evaluation of the economic situation in the Community fisheries.

13.3 Follow-up of RCM recommendations and initiatives

The Liaison meeting report list a number of recommendations by the various RCM's. Denmark has examined the recommendations and has taken the following initiatives:

Denmark will take initiatives together with Sweden to analyse whether inputs from discard sampling in the Skagerrak and the Kattegat are sufficient or whether bilateral agreements could improve the data collection.

Denmark has already seeked multilateral agreements to overcome the obligation to provide data for species by Member States that have small catches of a number of species.

Denmark has entered into formal bilateral agreements on the sampling of foreign flag vessels.

Denmark has actively worked via the ICES IBTSWG for bi- or multilateral agreements to make a useful data collection of sexual maturity data.

14 List of acronyms and abbreviations

Acronym/Abbreviation	Description
DCR	Commission Regulation (EC) No 1639/2001 (Data Collection Regulation)
DIFRES	Danish Institute for Fisheries Research
FD	Danish Directorate of Fisheries
FOI	Danish Food and Resource Economics Institute, Denmark
FTE	Full Time Employed
IQ/ITQ	Individual quota / Individual transferable quota
ICES HAWG	ICES Herring Assessment Working Group for the Area South of 62° N
ICES SGABC	ICES Study Group on Ageing Issues in Baltic Cod
ICES SGBYSAL	ICES Study Group on the Bycatch of Salmon in Pelagic Trawl Fisheries
ICES SGSIMUW	ICES Study Group on Stock Identity and Management Unit of Whiting
ICES WGBAST	ICES Baltic Salmon and Trout Working Group
ICES WGBFAS	ICES Baltic Fisheries Assessment Working Group
ICES WGDEEP	ICES Working Group on the Biology and Assessment of Deep Sea Fisheries Resources
ICES WGEF	ICES Working Group on Elasmobranch Fishes
ICES WGHMM	ICES Working Group on the Assessment of Southern Shelf Stocks of Hake, Monk and Megrim
ICES WGMHSA	ICES Working Group on the Assessment of Mackerel, Horse Mackerel, Sardine and Anchovy
ICES WGNEPH	ICES Working Group on Nephrops Stocks
ICES WGNSDS	ICES Working Group on the Assessment of Northern Shelf Demersal Stocks
ICES WGNPBW	ICES Northern Pelagic and Blue Whiting Fisheries Working Group
ICES WGNSSK	ICES Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak
ICES WGPAND	ICES Pandalus Assessment Working Group
ICES WGSSDS	ICES Working Group on the Assessment of Southern Shelf Demersal Stocks
IQ/ITQ	Individual quota / Individual transferable quota.
SCV	Standard Catch Value = landings per species multiplied by 3-year average prices.

15 Comments, suggestions and reflections

The table 8.1 and 8.2 have been found problematic as for many species stock area and management area are conflicting. It is recognized that it's a remit from annex XV in the DCR, but still it is very confusing and in many cases don't make any sense. Therefore, Denmark suggests that the table 8.1 and 8.2 refers to management/quota areas and the stock area is a sum of a number of management areas.

16 References

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RCM North Sea & East Arctic, formerly RCM North Sea (RCM NS&EA): Second Regional Co-ordination Meeting (RCM) for the North Sea area, Bergen, Norway, 26-30 September 2005.

RCM North East Atlantic (RCM NEA): Regional Co-ordination Meeting North East Atlantic (RCM NEA), Gijon, Spain, 3-7 October 2005.

Report of the 2nd Liaison Meeting between the Chairs of the RCMs, the Chair of SGRN and the European Commission.

17 Annexes

Annex I

Agreement between the Danish Institute for Marine Research and the Institute of Marine Research, Sweden concerning collection of fisheries data in 2006

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 establish 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

Date: 28/3-06

Fredrik Arrhenius
National Correspondent
Institute for Marine Research

For DIFRES

Date: 24/3-06

Jørgen Dalskov
National Correspondent
Danish Institute for Marine Research

ANNEX I

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: **2006**
Flag country: **Denmark** Landings (2005): **390** (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: **4**
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 2007

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

Date: 28/3-06

Fredrik Arrhenius
National Correspondent
Institute for Marine Research

For DIFRES

Date: 29/3-06

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: **2006**
Flag country: **Sweden** Landings (2005): **13 170** (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: **13**
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. 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

Data will be delivered to Sweden **regularly** and at latest 1 January 2007

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

Date: 29/3-06

Fredrik Arrhenius
National Correspondent
Institute for Marine Research

For DIFRES

Date: 25/5-06

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: **2006**
Flag country: **Sweden** Landings (2005): **2 400** (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: **2**
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. Receivingcountry 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. 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

Data will be delivered to Sweden **regularly** and at latest 1 January 2007

Name of contact person in:
Receiving country:
Frank Ivan Hansen (fih@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

Date: 28/5-06

Fredrik Arrhenius
National Correspondent
Institute for Marine Research

For DIFRES

Date: 25/5-06

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: **2006**
Flag country: **Sweden** Landings (2005): **24 000** (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.

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: **24**
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 January 2007

Name of contact person in:
Receiving country:
Frank Ivan Hansen (fih@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

Date: 28/5-06

Fredrik Arrhenius
National Correspondent
Institute for Marine Research

For DIFRES

Date: 25/5-06

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: **2006**
Flag country: **Sweden** Landings (2005): **55 600** (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.

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: **28**
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 January 2007

Name of contact person in:
Receiving country:
Frank Ivan Hansen (fih@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

Date: 27-06

Fredrik Arrhenius
National Correspondent
Institute for Marine Research

For DIFRES

Date: 25/9-06

Jørgen Dalskov
National Correspondent
Danish Institute for Marine Research

Annex II

Agreement

between the Danish Institute for Marine Research and the Institut für Ostseefischerei, Rostock (IOR) and Bundesforshungsanstalt für Fisherie, Institut für Seefischerei, Hamburg, Germany concerning collection of fisheries catch data in 2005

In accordance with the Data Collection Regulation (DCR) (Commission Regulation 1639/2001) Denmark and Germany have agreed entering co-operation on collection of fisheries data. This agreement has been establish due to common interests in the fisheries in the Skagerrak (Division IIIa North), the Kattegat (Division IIIa South), in the Baltic Sea and in the North Sea. Furthermore, substantial landings by German 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:

Cod in the Western Baltic Sea (SD 22+24)
The German landings in Denmark were in 2004 below 5 percent of the German quota in 2004. Therefore, no sampling is made in Denmark. Germany will in 2005 adjust the national sampling to compensate for the missing sampling of the landings in Denmark.

The Danish landings in Germany were in 2004 below 5 percent of the Danish quota. Denmark will adjust national sampling to compensate for the landings in Germany.

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 Eastern Baltic Sea (SD 25+32)
German landings in Denmark were in 2004 more than 5% of the German quota (Landings in DK = 501 t, GFR quota = 3364t) but the German sampling is based on extended level of intensity which supersede Danish sampling of the German landings.

Danish landings in Germany do not exceed 5% of the Danish quota and is therefore not sampled by Germany. Increased level of Danish sampling will compensate for the missing German sampling in order to obtain the correct sampling level according to the DCR .

Herring.
Danish landings in Germany (292t) from Sub-division 24 were in 2004 less than 5% of the Danish quota (6448t) and will not be sampled in 2005 by Germany. Increased level of Danish sampling will in 2005 compensate for the missing German sampling in order to obtain the correct sampling level according to the DCR.

German landings in Denmark from Sub-division 24 were in 2004 7% and exceed in 2004 the 5% threshold. In defiance of that Denmark will not sample those landings in 2005 as those landings are assumed to be very similar in composition to the German landings in Germany and German sampling in Germany will in 2005 compensate for the missing Danish Sampling.

In eastern area (Sub-division 25+) no sampling of foreign landings of herring is taken due to insignificant landings.

Sprat
German landings in Denmark were in 2004 13000t out of a German quota of 30907t which is equal to 42%. See annex 1 for detailed description of the sampling scheme.

No Danish landings of sprat in Germany.

Flounder
German landings in Denmark were in 2004 ca. 60t. There are no quotas on Flounder in the Baltic Sea. One sample per 200 tons is required according to DCR. Therefore, no sampling is made from those landings.
The Danish landings in Germany were in 2004 258 tons which should require 2-3 samples according to the DCR. As the landings in Germany are assumed similar to the landings in Denmark concerning composition, no sampling in Denmark is performed.

In the light of the growing importance of the flounder as a commercial species in the area, the amount of landings of this species should be monitored for potential sampling obligation.

Sole in Kattegat
As the German landings in Denmark are less than 5% of the German quota, no sampling is performed on those landings.

No sole are landed in Germany by Danish fishermen.

Saithe in North Sea and Skagerrak
In 2004 the German quota was 15184 tons in total for the North Sea and Skagerrak. The German landings in Denmark were 7569 tons (equals app. 50 %). Therefore, 38 samples should be taken from those landings (one sample per 200t). The German trawl fishery for saithe (and other demersal species) is sampled by Germany by use of observers on board the vessels. The coverage of this sampling scheme includes trips where the landings are in Denmark. Therefore, there is no need for Danish sampling of those landings.

There are no Danish landings of saithe in Germany.

Haddock in the North Sea
Germany has as specified in the Sampling Contract between Germany and the EU Commission derogation for sampling of haddock in the North Sea.
No Danish landings of haddock in Germany.

Plaice in the North Sea
The German landings of plaice from the North Sea are covered by the observer scheme and include landings in Denmark.
No Danish landings of plaice in Germany.

Cod in the North Sea
The German landings of cod from the North Sea are covered by the observer scheme and include landings in Denmark.
No Danish landings of cod in Germany.

Exchange of staff on surveys

It has been agreed to continue the cooperation during the herring German acoustic survey in the Western Baltic and the Belt area with R/S Solea. The agreement includes participation of one Danish person on the survey.

Furthermore, it has been agreed to exchange one staff person during the 1st quarter International Bottom Trawl Survey (IBTS) in the North Sea and one staff person during the 1st quarter Baltic International Trawl Survey (BITS) in the Baltic Sea.

Contact persons
The German contact persons in general matters concerning sampling and handling of samples are:

North Sea and Skagerrak	**Kay Panten**	**E-mail**	**kay.panten@ish.bfa.de**
Baltic and Kattegat	**Ulrich Berth**	**E-mail**	**ulrich.berth@ior.bfa-fisch.de**

The Danish contact persons in general matters concerning sampling and handling of samples are:

North Sea and Skagerrak	**Aage Thaarup**	**E-mail: att@dfu.min.dk**
Baltic and Kattegat	**Frank I. Hansen**	**E-mail: fih@dfu.min.dk**

Signatures:

For BFA

Date: 25.5.05

Hans Peter Cornus
National Correspondent
Bundesforschungsanstalt f. Fischerei
Institut für Seefischerei

For DIFRES

Date: 25/5-05

Jørgen Dalskov
National Correspondent
Danish Institute for Marine Research

ANNEX I

Species/~~stock~~: **Sprat**

In area: **ICES Sub-division 24**

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

In year: **2005**
Flag country: **Germany** Landings (2004): **1,300** (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: **6**
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.
It is expected that the landing will increase to a level where 10-12 samples are required.

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 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 not be age determined in Denmark but the otoliths and obtained raw-data recorded on Danish samplings sheets will be sent to Germany for age determination. Germany 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 Germany regularly and at latest 1 February 2006

Name of contact person in:
Receiving country:
Stina Bildstrup (sb@difres.dk)

Flag country:
Peter Ernst (ernst.ior@t-online.de)

Signatures:

For BFA

Date: 25.5.05

Hans Peter Cornus
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For DIFRES

Date: 25/5-05

Jørgen Dalskov
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