

Ministry of the Flemish Community
Sea Fisheries Service (Oostende, Belgium)
Sea Fisheries Department (Oostende, Belgium)



National Data Gathering Program
under EC Regulation 1639/2001
amended by EC Regulation 1581/2004

Belgium

2006 - Program proposal

Oostende - June 2005

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Annexes

Provided in a separate document:

Appendices 1-15	Cost estimates for Modules C to K, Databases and Co-ordination separately (Commission only)
Appendix 16	Cost estimates for all Modules combined (Commission only)
Appendix 17	Cost projections for 2007 (Commission only)

1 The Belgian sea fisheries

This section contains a brief overview of the Belgian sea fisheries and its most important features. The intention of this description is not to be comprehensive, but to provide the (external) evaluators with the essential elements that might help them in their appreciation and assessment of the Belgian program proposal.

1.1 Fleet size and fleet segments

In 2004, the Belgian sea-going fishing fleet comprised 127 registered vessels (see text table below).

Composition of the Belgian sea-going fishing fleet in 2004						
Vessel type	Hp class					Total
	< 300	301-600	601-900	901-1200	> 1200	
Beamers	45	1	7	31	21	105
Whitefish and Nephrops trawlers	6		2			8
Shrimpers	11					11
Static gear		2	1			3
Total	62	3	10	31	21	127

Broadly speaking, these vessels can be sub-divided into the following fleet segments:

- Mid-class (301-900 Hp) and large (> 900 Hp) beam trawlers. These vessels are mostly flatfish directed (particularly towards plaice and sole, together with the associated by-catch species such as turbot, brill, dab, lemon sole, anglerfish and some roundfish), and usually operate in the central and southern North Sea (ICES Sub-areas IVb and IVc), the English Channel (VIId and VIIe), the Irish Sea (VIIa), the Celtic Sea (VIIfg) and the inner part of the Bay of Biscay (VIIIab).
- Small beamers with engine powers ≤ 300 Hp. Part of these primarily target flatfish, mostly in the southern North Sea and the eastern English Channel. Others shift between flatfish, brown shrimp (*Crangon crangon*) (in the coastal waters) and Norway lobster (*Nephrops norvegicus*) (usually in the Botney Gut - Silver Pit area, southern North Sea), depending on catch opportunities and market prices.
- A small number of *Nephrops* directed and mixed whitefish-*Nephrops* trawlers. Most of these vessels use multi-rig otter trawls. The *Nephrops* specialist trawlers fish year-round in the Botney Gut - Silver Pit area (southern North Sea). The mixed whitefish-*Nephrops* trawlers target roundfish (primarily cod, haddock, whiting and saithe) during part of the year, and *Nephrops* during the main *Nephrops* season (3rd and beginning of 4th quarter).
- Approx. 10 shrimpers, targeting brown shrimp (*Crangon crangon*) in the Belgian coastal waters and the southernmost part of the Dutch coastal waters. Some of these vessels land their catches directly into the Netherlands.

- A small number of catamarans, using different types of static gear.

Apart from the registered vessels, there is a relatively small number (allegedly < 50) of *non-registered* recreational fishing boats. Most of these target brown shrimp in the shallow near-shore waters, close to their homeports. Recreational fishing is strongly weather dependent and is usually restricted to the summer months.

1.2 Areas fished

Landings by the Belgian sea-going fishing fleet are mostly from the North Sea (48 % of the total landings in 2004), followed by the English Channel (23 %), the Celtic Sea (17 %), the Irish Sea (10 %) and the Bay of Biscay (2 %). Landings from other areas (Western Approaches, West of Scotland, etc.) are small to negligible (Table 1.1.).

1.3 Species landed

Belgium has no industrial and virtually no pelagic fisheries. All fish and shellfish landed by Belgian vessels is for human consumption. The consequence being, that the quantities landed are relatively small (23.6 10³ t in 2004, which is similar to the 2003 figure of 23.7 10³ t) compared to the size of the fleet, but also that their value per kg is relatively high (approx. 3.5 Euro/kg).

In 2004, the top 10 of the most important species landed (by weight) consisted of plaice (24.6 % of the total landings), sole (19.0 %), rays (8.1 %), cod (6.9 %), lemon sole (5.4 %), cuttlefish, brown shrimp, dab, tub gurnard and scallop (Table 1.1.).

1.4 Landing and auctioning practices

Fish and shellfish landed into Belgium are landed fresh and chilled (kept on ice but not frozen). At sea, fish and shellfish are commonly sorted by species or species groupings (e.g. cod, haddock, whiting, sole, plaice, rays, small sharks, *Nephrops*, mixed other flatfish and mixed other roundfish), but not by size. Size grading is done in the auction, either by hand or by automated grading machines.

If the quantities are sufficiently large, then individual species are auctioned separately (and for most species also by market category). Marginal by-catches of whatever species are often auctioned as 'mixed assortments'. Mixed sales are also the rule for most species of ray, for megrim, anglerfish, squid and octopus, and, depending on the quantities landed, for gurnard.

1.5 Landings by Belgian vessels in foreign harbours

Roughly one third of all fish and shellfish taken by Belgian vessels in the southern and central North Sea is auctioned in foreign harbours, mostly in the Netherlands.

Vessels fishing in the northern North Sea, the Irish Sea, the Celtic Sea or the Bay of Biscay often make several consecutive fishing trips in the same area before returning to their homeport. Between voyages, these vessels make stop-overs in the UK or France, where they transfer their landings to refrigerated lorries for transportation to and first sale in a Belgian auction. On these occasions, the vessels may sell part of their catches abroad (depending on quantities landed and market situation).

Table 1.1. - Belgian landings by species and area in 2004

All data in t landed weight, rounded to the nearest 5 t

Species	ICES Sub-area or Division							Total
	IV	VIIde	VIIa	VIIfg	VIIhjk	VIII	Other	
<i>Anarhichas lupus</i>	80	0	0	0	0	0	0	80
<i>Aspitrigla cuculus</i>	80	180	<10	50	<10	<10	0	315
<i>Conger conger</i>	<10	25	<10	25	<10	<10	<10	60
<i>Dicentrarchus Labrax</i>	30	10	<10	10	<10	<10	<10	55
<i>Eutrigla gurnardus</i>	20	15	<10	<10	<10	<10	0	40
<i>Gadus morhua</i>	1380	40	90	125	<10	<10	0	1640
<i>Hippoglossus hippoglossus</i>	<10	<10	0	<10	0	0	0	<10
<i>Lepidorhombus whiffiagonis</i>	<10	<10	<10	205	<10	<10	0	210
<i>Limanda limanda</i>	355	120	30	55	<10	<10	0	560
<i>Lophius spp.</i>	90	80	50	265	15	<10	<10	500
<i>Melanogrammus aeglefinus</i>	315	<10	10	115	<10	<10	<10	445
<i>Merlangius merlangus</i>	125	40	<10	150	<10	<10	<10	325
<i>Merluccius merluccius</i>	65	<10	<10	10	<10	<10	<10	90
<i>Microstomus kitt</i>	635	115	25	490	<10	<10	<10	1275
<i>Molva molva</i>	40	10	<10	25	<10	<10	<10	80
<i>Mullus surmuletus</i>	<10	20	<10	<10	<10	<10	0	40
<i>Mustelus mustelus</i>	<10	<10	<10	<10	0	<10	0	15
<i>Platichthys flesus</i>	320	55	15	<10	<10	0	0	390
<i>Pleuronectes platessa</i>	4155	960	415	205	65	<10	0	5805
<i>Pollachius pollachius</i>	30	30	15	35	<10	<10	<10	110
<i>Pollachius virens</i>	20	<10	<10	<10	0	0	0	20
<i>Psetta maxima</i>	195	70	25	90	<10	<10	<10	395
Rajidae	330	95	860	615	<10	<10	<10	1920
<i>Scophthalmus rhombus</i>	130	155	30	75	<10	<10	<10	400
<i>Scyliorhinus canicula</i>	75	175	70	130	<10	<10	<10	460
<i>Sebastes spp.</i>	<10	0	0	<10	<10	0	0	<10
<i>Solea solea</i>	1405	1415	500	705	155	305	0	4485
<i>Squalus acanthias</i>	<10	<10	<10	<10	0	0	0	15
<i>Trigla lucerna</i>	105	385	20	40	<10	<10	<10	560
<i>Trisopterus spp.</i>	25	305	<10	35	<10	<10	<10	380
Other Demersal	60	115	20	135	<10	15	<10	345
<i>Clupea harengus</i>	<10	<10	0	0	0	0	0	<10
<i>Scomber scombrus</i>	<10	<10	0	<10	0	0	0	<10
<i>Sprattus sprattus</i>	<10	0	0	0	0	0	0	<10
<i>Trachurus trachurus</i>	<10	<10	0	0	0	<10	0	<10
Other Pelagic	<10	<10	0	<10	0	0	0	<10
<i>Cancer pagurus</i>	55	10	<10	10	0	<10	<10	80
<i>Cancer pagurus (claws)</i>	25	15	<10	20	<10	<10	<10	60
<i>Crangon crangon</i>	600	0	0	0	0	0	0	600
<i>Homarus gammarus</i>	<10	<10	<10	<10	0	0	0	<10
<i>Nephrops norvegicus</i>	215	<10	<10	15	0	0	0	225
<i>Buccinum undatum</i>	75	35	<10	10	<10	<10	0	125
<i>Loligo spp.</i>	30	55	<10	20	<10	<10	<10	105
<i>Octopus spp.</i>	<10	<10	<10	35	<10	<10	0	50
<i>Pecten maximus</i>	20	335	20	150	<10	<10	<10	530
<i>Sepia officinalis</i>	105	610	<10	90	<10	10	0	820
Other Shellfish	<10	<10	<10	<10	0	0	0	<10
Total	11235	5500	2260	3970	265	395	15	23640
% of Grand Total	48	23	10	17	1	2	0	100

2 General comments on the program proposal for 2006

2.1 Structure of the proposal

The present document contains the National Data Gathering Program (NDGP) proposal for Belgium for the year 2006.

Details on the data that will be collected and on the methodology that will be used, are given by Module of the Data Collection Regulation (DCR), as defined in EC Regulations No. 1639/2001 and No. 1581/2004:

- Module C Data concerning fishing capacities
- Module D Data related to fishing effort
- Module E Data related to catches and landings
- Module F Data concerning the catches per unit of effort
- Module G Scientific evaluation surveys of stocks
- Module H Length and age sampling of landings and discards
- Module I Other biological sampling (i.e. studies of biological parameters)
- Module J Economic data by group of vessels
- Module K Data concerning the processing industry
- Data storage and management (Articles 9-11 of the DCR)
- Co-ordination (Article 6 of the DCR)

Each Module section has a budget appendix (Appendices 1-15) ⁽¹⁾ with details on the time allocation (in man-months) for scientists and technicians separately, and the estimated costs for travel, durable equipment, consumables, sea allowances and vessel costs (where relevant), computing and sub-contracting. Synoptical tables with the time allocation and cost estimates for all Modules combined are given in Appendix 16.

Costs projections for the year 2007 are given in Appendix 17. As the requirements of the DCR are likely to change from 2008 onwards, no attempts were made to make cost projections beyond 2007.

2.2 Main differences between 2005 and 2006 program proposals

Overall, the Belgian NDGP proposal for 2005 scored well in the Evaluators' Report, and the proposed budget was accepted by the Commission without adjustments. As such, there was no reason to change the general approach of the NDGP, actually meaning that the core of the present proposal is very much similar to the one submitted last year.

⁽¹⁾ Budget appendices are for the attention of the Commission and the External Evaluators only, and should be treated as confidential.

In an attempt to further improve the NDGP, special attention was paid to the comments and suggestions made last year by the Evaluators and by SGRN. Wherever practical and feasible, these suggestions were taken into account when writing this year's proposal. This has resulted in a number of modifications to the contents of several Module sections, the most important of which are:

- Module E The lack of discard data on the flatfish directed beam trawl fishery in the North Sea will be filled in by a 2-years national project (2006-2007) with focus on discard sampling in, amongst others, the North Sea.
- Module H Inclusion of age sampling for cod in the North Sea.
- Module K Inclusion of a MP proposal on data sampling concerning the fish processing industry.

2.3 Minimum and Extended Program

Except for Module F (Data concerning the catches per unit of effort), no attempts were made to submit Extended Program (EP) proposals for the year 2006.

2.4 Statistical aspects of data collection

In previous program submissions, the statistical aspects of sea surveys, market and discard sampling programs, updates of biological parameters, etc., were hardly given any in-depth consideration. In August 2004 however, the Sea Fisheries Department has employed a full-time statistician, whose major task it is to:

- Investigate the precision levels of the current sea surveys and sampling programs.
- Ensure the quality control of all existing and future data collection programs.
- Give guidance on how the sampling programs can be improved, in order to make them more efficient and cost-effective.
- Analyse the existing data sets on catches and landings with the aim of defining appropriate metiers and hierarchical groupings thereof, which can then be used to set up fishery-based data collection programs (in replacement of the current stock-based programs).

Some preliminary results of these investigations (particularly on the precision levels of the market sampling programs for plaice and sole) have been included as an annex in the 2004 Technical Report.

2.5 Cost of the Belgian NDGP

In the Evaluators' comments on the previous program proposals, it was hinted that the Belgian NDGP is relatively expensive when compared to the total volume of the landings, but not (or at least much less) when compared to their gross value. There are a couple of good fishery-related and economic reasons to this. Belgium has no industrial and

virtually no pelagic fisheries (it does have some quota for pelagic species but these are swapped for demersals), but mostly fisheries for human consumption, with over 50 % of the gross revenues being accounted for by two species only (viz. plaice and sole). This implies that the quantities landed are relatively small (there are no bulk landings of e.g. herring, sprat, horse mackerel, Norway pout or sandeel), but also that their value per unit weight is high compared to most other northern European countries.

2.6 Regionalisation of the responsibilities over agriculture and fisheries

For three years now, the political responsibilities over agriculture and fisheries have been transferred from the federal government to the regions (Flanders and Wallony). This involved major structural changes in the institutes that have committed themselves to execute the Belgian NDGP (viz. the Sea Fisheries Service and the Sea Fisheries Department). So far, this has not affected the proper execution of the NDGP. For 2006 however, it is highly uncertain how (and even whether) the national contribution to the costs of the Belgian NDGP will be filled in. Should this problem not be resolved in time, then the Commission will be informed without delay on the matter and on its consequences for the NDGP.

3 Module C - Data concerning fishing capacities

Institute in charge: Sea Fisheries Service

3.1 MP proposal

The NDGP will cover all Belgian vessels in the EU Fleet Register, the population of which is fully known and well documented. Fleet segments that will be distinguished are:

Type of fishing technique	Vessel length
Beam trawlers	12 - 24 m
	24 - 40 m
Demersal trawlers (a)	12 - 40 m
Static gear (a)	12 - 24 m
(a) There are < 10 vessels for both segments combined	

With respect to this, it is worth emphasising that Belgium has no registered fishing vessels of < 10 m LOA (also see Section 1.1).

Parameters recorded will include: gross and net tonnage, maximum continuous power (kW) of the main engine, and vessel age based on the hull (years). Fleet segmentation will be as required by Annex III of the DCR.

All data required by the DCR are available from the official vessel register. The precision level of these data is assumed to be 100 %.

3.2 EP proposal

Belgium does not apply for an EP under this Module of the DCR.

3.3 Budget

Details on the budget for this Module are given in Appendix 1.

4 Module D - Data related to fishing effort

Institute in charge: Sea Fisheries Service

4.1 MP proposal

The NDGP covers all Belgian vessels in the EU Fleet Register. Parameters that will be recorded include:

- **Fuel consumption:** Data will be collected through partial sampling of the fleet, by means of financial questionnaires that are filled out by the ship owners on a voluntary basis and returned to the Sea Fisheries Service for analysis. Average fuel consumption per vessel will be calculated for all fleet segments defined under Module C of the DCR.
- **Fishing effort by technique:** kW and GT data are routinely recorded per day at sea for all vessels using active gears.
- **Specific fishing effort** data will be collected for *Gadus morhua*, *Melanogrammus aeglefinus*, *Merlangius merlangus*, *Pleuronectes platessa*, *Solea solea* and *Nephrops norvegicus*. The threshold levels, as defined in Annex VI of the DCR, will be calculated from the relative proportions (by weight) of the key species in the total landings per fishing trip. If required, the existing database of landings and effort data allows for the retrieval of specific fishing efforts for other species as well.

Aggregated data on fishing effort and specific fishing effort will be provided by ICES Sub-area, for the following vessel types:

Type of fishing technique	Disaggregation
Beam trawlers	North Sea ≤ 221 kW
	North Sea > 221 kW
	Outside North Sea
Demersal trawlers	All ICES Sub-areas
Static gear	All ICES Sub-areas

For kW, gross tonnage and days at sea, the required precision levels will be reached, since data collection is based on all voyages by the entire fleet. For fuel consumption, the sample exceeds 50 % of the total population (also see Section 10.1).

4.2 EP proposal

Belgium does not apply for an EP under this Module of the DCR.

4.3 Budget

Details on the budget for this Module are given in Appendix 2.

5 Module E - Data related to catches and landings

Institutes in charge: Sea Fisheries Service (landings and recreational fisheries) and Sea Fisheries Department (discards)

5.1 MP proposal - Landings

Weights and values of the landings are routinely collected for all species listed in the text table below. The data cover all landings by Belgian vessels in both Belgian and foreign harbours, and are exhaustive.

Species for which landings data will be collected	
<i>Anarhichas lupus</i>	<i>Mullus surmuletus</i>
<i>Anguilla anguilla</i>	<i>Mustelus spp.</i>
<i>Aspitrigla cuculus</i>	<i>Nephrops norvegicus</i>
<i>Buccinum undatum</i>	<i>Octopus spp.</i>
<i>Cancer pagurus</i>	<i>Pecten maximus</i>
<i>Clupea harengus</i>	<i>Platichthys flesus</i>
<i>Conger conger</i>	<i>Pleuronectes platessa</i>
<i>Crangon crangon</i>	<i>Pollachius pollachius</i>
<i>Dicentrarchus labrax</i>	<i>Pollachius virens</i>
<i>Eutrigla gurnardus</i>	<i>Psetta maxima</i>
<i>Gadus morhua</i>	<i>Rajidae (*)</i>
<i>Hippoglossus hippoglossus</i>	<i>Scomber scombrus</i>
<i>Homarus gammarus</i>	<i>Scophthalmus rhombus</i>
<i>Lepidorhombus spp.</i>	<i>Scylliorhinus caniculus</i>
<i>Limanda limanda</i>	<i>Sebastes marinus</i>
<i>Loligo spp.</i>	<i>Sepia officinalis</i>
<i>Lophius spp. (*)</i>	<i>Solea solea</i>
<i>Melanogrammus aeglefinus</i>	<i>Sprattus sprattus</i>
<i>Merlangius merlangus</i>	<i>Squalus acanthias</i>
<i>Merluccius merluccius</i>	<i>Trachurus trachurus</i>
<i>Microstomus kitt</i>	<i>Trigla lucerna</i>
<i>Molva molva</i>	<i>Trisopterus luscus</i>

(*) For details on species segregation, see Section 8.1.

❖ The problem of the 'restricted' list

In previous years, the idea of having a 'restricted' list of species for which landings data are recorded, has been labelled as a 'non conformity' by the External Evaluators. However, as already explained in last year's program proposal, there is some rationale behind the idea of the restricted list.

Species that do not figure in the restricted list are not deliberately omitted from the data recording system, **they are simply not landed by the Belgian fleet**. And if they are, it is in very small quantities only. As such, the list should not be seen as an attempt 'to get away

with the minimum', but rather as a reflection of the actual composition of the Belgian fish and shellfish landings.

There is a historical background to the restricted list, which is based on the peculiarities of the Belgian sea fisheries (see Section 1 for details):

- The geographical distribution of Belgian fishing effort is limited to the North Sea, the English Channel, the Irish Sea, the Celtic Sea, South of Ireland and the inner part of the Bay of Biscay. The consequence being that all typically boreal and lusitanian species are absent from the landings.
- Belgium has no industrial, no distant and no deep-water fisheries. Again, this implies that all species which are typical to such fisheries are absent from the landings.

In its evaluation of the 2004 and 2005 program proposals, SGRN stated that it saw no contradiction between the requirements of the DCR and the use of a restricted list of species for which landings data are recorded, as long as the restricted list is a correct reflection of the species composition of the landings. Belgium has repeatedly confirmed that this is the case.

Eel (*Anguilla anguilla*) has been added to the list of species for which landings data will be collected. Pending further guidance on the possible inclusion of fresh water catches of eel in the landings data, only the eel catches from marine areas will be monitored in 2006. The general expectation is however, that these quantities will be extremely small.

❖ **The problem of 'mixed' landings**

Belgium has taken notice of SGRN's recommendation that "*pilot studies shall be implemented, where relevant, to obtain a better understanding of the composition of mixed species categories*". In the Belgian fish and shellfish landings, a distinction must be made between two categories of mixed landings:

- Mixed landings of large quantities of fish pertaining to the same group of species, such as *Raja spp.*, *Trigla spp.* and *Lophius spp.*

For the *Rajidae* and the *Lophiidae*, disaggregation of the landings figures by species is done as part of the routine market sampling programs (see Section 8.1). For the *Triglidae*, no such system is envisaged, since they are not subject to the DCR.

- Mixed landings and sales of fish in quantities that are too small to be auctioned separately.

These mixed sales are of an extremely variegated and variable nature, and they never represent more than a few kg per voyage. The cost for setting up a system to disaggregate such mixed landings would be disproportionate compared to the increase in precision that might be achieved.

In the current data system, this category of mixed landings is recorded as 'Other demersal', 'Other pelagic', etc., together with the landings of species that are not in the restricted list. It is worth noticing that the 'Other' categories represent less than 1.5 % of the total Belgian landings (see Table 1.1.). In view of this, the omission of the quantities of fish or shellfish that end up in the 'Other' categories from the species-wise totals, hardly affects the reliability of the latter, and the final figures remain well within the margins of the precision levels required by the DCR.

❖ **Conversion factors, data management and international data exchange**

The conversion factors used to convert landed weights (gutted for most round- and flatfish species, gutted and without head for anglerfish, tails only for *Nephrops*, etc.) to live weights are given in Table 5.1.

The existing technical resources for data collection, management and retrieval allow for the necessary manipulation and aggregation of the raw data. Grouping of the data can be done at any desired level of aggregation (temporal, spatial, by species, by vessel or gear class, etc.).

International co-operation is realised through the exchange of data for Belgian flag vessels landing and selling their catches abroad and for other flag vessels landing and selling their catches into Belgium. There are no Belgian landings outside the EU.

5.2 EP proposal - Landings

Belgium does not apply for an EP under this Module of the DCR.

5.3 MP proposal - Discards

In 2005, the Belgian discard sampling program focused on the flatfish directed beam trawl fisheries in the Irish Sea (ICES Sub-area VIIa), the eastern English Channel (VIIId), the Celtic Sea (VIIIfg) and the inner Bay of Biscay (VIIIab), and on the *Nephrops* directed fishery in the southern North Sea (*Nephrops* FU 5). The programs covered all species listed in Annex XII and Annex XV of the DCR. In 2006, the discard sampling programs on all fisheries presently monitored will be maintained at least at the 2005 level.

The Belgian discard sampling programs are used to estimate both the quantities discarded (as required under Module E of the DCR) and their length and age composition (as required under Module H). Details on the set-up and the methodology of these programs are given under Module H (see Section 8.3).

The only major fishery for which Belgium has not routinely collected discard information in the past, is the flatfish directed beam trawl fishery in the North Sea. This fleet however, will continue to be sampled on an 'opportunistic' basis, e.g. when an observer trip in the eastern English Channel, ICES Sub-area VIIId (one of the areas for which a regular discard sampling program is foreseen – see above) is extended into the North Sea by an *ad hoc* decision of the skipper. The same applies to the western English Channel, Sub-area VIIe. In addition, the Sea Fisheries Department has applied for a FIOV project under EC Regulation 2792/99, whose main aim it is to improve collaboration between fishers and scientists through joint data collection exercises on the retained and discarded catch fractions of beam trawlers operating in the Celtic Sea and the North Sea. Discard sampling in this project will cover all species in Annex XII and XV of the DCR. The project is now (June 2005) in the final stages of negotiation and should take off in January 2006.

5.4 EP proposal - Discards

Belgium does not apply for an EP under this Module of the DCR.

5.5 MP proposal - Recreational fisheries

In 2006, a pilot study will be conducted to obtain an estimate of the cod catches by recreational fisheries in the North Sea (Appendix 11 of Regulation 1581/2004). To that aim, questionnaires will be sent out by mail to all known recreational fishermen and recreational fishermen's organisations in Belgium. The inquiry will be accompanied by and supplemented with targeted controls by fisheries inspectors.

5.6 EP proposal - Recreational fisheries

Belgium does not apply for an EP under this Module of the DCR.

5.7 Budget

Details on the budget for this Module are given in Appendices 3 (Data related to catches and landings), 4 (Data related to discards) and 5 (Recreational fisheries).

With respect to Appendix 4 however, it should be noticed that all costs for the collection of discard data (related to both the estimation of the quantities discarded, and their length and age sampling) have been included in Appendix 10 (Length and age composition of discards). Any attempt to partition labour time and working costs between the two would have been very arbitrary, and therefore it was decided to budget all discard related costs under the Module where most of the expenses are to be expected, i.e. under Module H (see Section 8 and Appendix 10).

Table 5.1. - Conversion factors	
Species	Conversion factor
<i>Anarhichas lupus</i>	1.18
<i>Conger conger</i>	1.00
<i>Gadus morhua</i>	1.18
<i>Hippoglossus hippoglossus</i>	1.05
<i>Lepidorhombus spp.</i>	1.05
<i>Limanda limanda</i>	1.05
<i>Lophiidae (whole)</i>	1.18
<i>Lophiidae (without head)</i>	3.00
<i>Melanogrammus aeglefinus</i>	1.18
<i>Merlangius merlangus</i>	1.18
<i>Merluccius merluccius</i>	1.18
<i>Microstomus kitt</i>	1.05
<i>Molva molva</i>	1.18
<i>Plathichthys flesus</i>	1.05
<i>Pollachius pollachius</i>	1.18
<i>Pollachius virens</i>	1.18
<i>Psetta maxima</i>	1.05
<i>Raja spp.</i>	1.05
<i>Scophthalmus rhombus</i>	1.05
<i>Sebastes spp.</i>	1.00
<i>Selachimorpha</i>	1.00
<i>Solea solea</i>	1.05
<i>Squalus acanthias</i>	1.00
<i>Squalus spp.</i>	1.00
<i>Triglidae</i>	1.00
<i>Trisopterus luscus</i>	1.18
Other Demersal	1.11
<i>Clupea harengus</i>	1.00
<i>Scomber scrombus</i>	1.00
<i>Sprattus sprattus</i>	1.00
<i>Trachurus spp.</i>	1.00
Other Pelagic	1.00
<i>Cancer pagurus</i>	1.00
<i>Crangon spp.</i>	1.25
<i>Homarus gammarus</i>	1.00
<i>Nephrops norvegicus (whole)</i>	1.00
<i>Nephrops norvegicus (tails)</i>	3.33
<i>Buccinum undatum</i>	1.00
<i>Loligo spp.</i>	1.00
<i>Octopus spp.</i>	1.00
<i>Pecten maximus</i>	1.00
Other Shellfish	1.00

6 Module F - Data concerning the catches per unit of effort

Institutes in charge: Sea Fisheries Service and Sea Fisheries Department

6.1 MP proposal

Following the STECF guidelines (16th report of the Scientific, Technical and Economic Committee for Fisheries, SEC(2003)843), CPUE series that are used in analytical or other assessments are part of the MP, while series that are used to give general background information on the state of a stock are to be included under the EP.

The stocks for which CPUE data will be collected under the MP are:

- Plaice (*Pleuronectes platessa*) in ICES Sub-area VIIId.
- Sole (*Solea solea*) in ICES Sub-areas VIIa, VIIId and VIIIfg.
- *Nephrops* in FU 5 (ICES Sub-area IVbc).
- Brown shrimp (*Crangon crangon*) in the Belgian coastal waters.

6.2 EP proposal

The stocks for which CPUE data will be collected under the EP are:

- Plaice (*Pleuronectes platessa*) in ICES Sub-areas IV, VIIa and VIIIfg.
- Sole (*Solea solea*) in ICES Sub-areas IV and VIIIab.

It is worth mentioning that the basic data to calculate CPUEs for all stocks listed in this section are (and will continue to be) routinely collected as part of the existing effort and landings recording system.

6.3 Budget

Details on the budget for this Module are given in Appendix 6.

7 Module G - Scientific evaluation surveys of stocks

Institute in charge: Sea Fisheries Department

7.1 MP proposal - Priority 1 surveys

All surveys with Priority 1 in Annex XIV of the DCR in which Belgium participates are included in the NDGP proposal. Belgium guarantees the continuity of the previous survey designs within its NDGP for 2006.

❖ Demersal Young Fish (and Brown Shrimp) Survey (DYFS)

As part of the international DYFS, an annual autumn sampling survey will be carried out in the Belgian coastal waters, to gather information on the abundance of juvenile flatfish (primarily plaice, dab and sole) and brown shrimp (*Crangon crangon*). The vessel used is the RV O.29 'Broodwinner' (LOA 27.2 m; engine power 221 kW). Overall, about 35 fixed sampling stations will be fished (Figure 7.1.). The location of the sampling area corresponds to the main flatfish nursery grounds along the Belgian coast.

Methodology

All DYFS sampling stations are fished for approx. 15 min, with a standard shrimp beam trawl (beam length 6 m; codend mesh size 22 mm). Commercial fish are hand-picked from the catches, sorted by species and measured to the cm below.

Brown shrimp are first graded into 'small' and 'large' by means of a rotating shrimp riddle (of the type that is also used on commercial shrimpers). From these two fractions, samples are taken of 1-2 litre each (depending on the proportions of shrimp and other organisms in the catch fractions). Samples are further sub-sampled in the lab (by weight) to an equivalent of approx. 250 shrimps, which are then measured in 5 mm size classes.

All data are stored in Excel spreadsheets at the Sea Fisheries Department, but will soon be entered in the sea surveys module of the Belsamp Database, which is currently under construction (see 2004 Technical Report).

❖ North Sea Beam Trawl Survey (BTS)

In August, the adult flatfish stocks (primarily plaice and sole) in the south-western part of the North Sea will be sampled with the oceanographic RV 'Belgica' (LOA 50 m). Samples will be taken on about 60 fixed stations in BTS Areas 2, 3 and 4 (Figure 7.2.). The position of the sampling stations and the methodology used to collect and analyse the samples is the same as in previous surveys.

Methodology

Each station is fished for 20-30 min (depending on quantities to be expected and the likely presence of potentially damaging obstructions such as rocks, boulders, etc.) with a 4 m beam trawl. All commercial fish are hand-picked from the catches, sorted by species and

measured to the cm below. For plaice and sole, otoliths are taken from 5 fish per cm class per BTS sub-area, to establish species- and area-specific ALKs.

In addition, semi-quantitative data are collected on the abundance of the most important by-catch species (both invertebrates and fish), and on the size composition of the *Cancer pagurus* by-catches.

All data on commercial fish are stored in Excel spreadsheets at the Sea Fisheries Department, but will soon be entered in the Belsamp Database. For the time being, the semi-quantitative data on the by-catch species are kept on paper.

7.2 EP proposal - Priority 2 surveys

Belgium has no Priority 2 surveys and does not apply for an EP under this Module of the DCR.

7.3 Budget

Details on the budget for this Module are given in Appendices 7 (DYFS) and 8 (BTS).

With respect to these budgets, it is worth stressing that no costs have been included for shipping time. So far, vessel costs have never been charged to the Sea Fisheries Department by the owners of the vessels that are used for the surveys (viz. RV '*Broodwinner*' for the DYFS, and RV '*Belgica*' for the BTS). This however, may change in the future, if the ship owners would decide to change their financial policy.

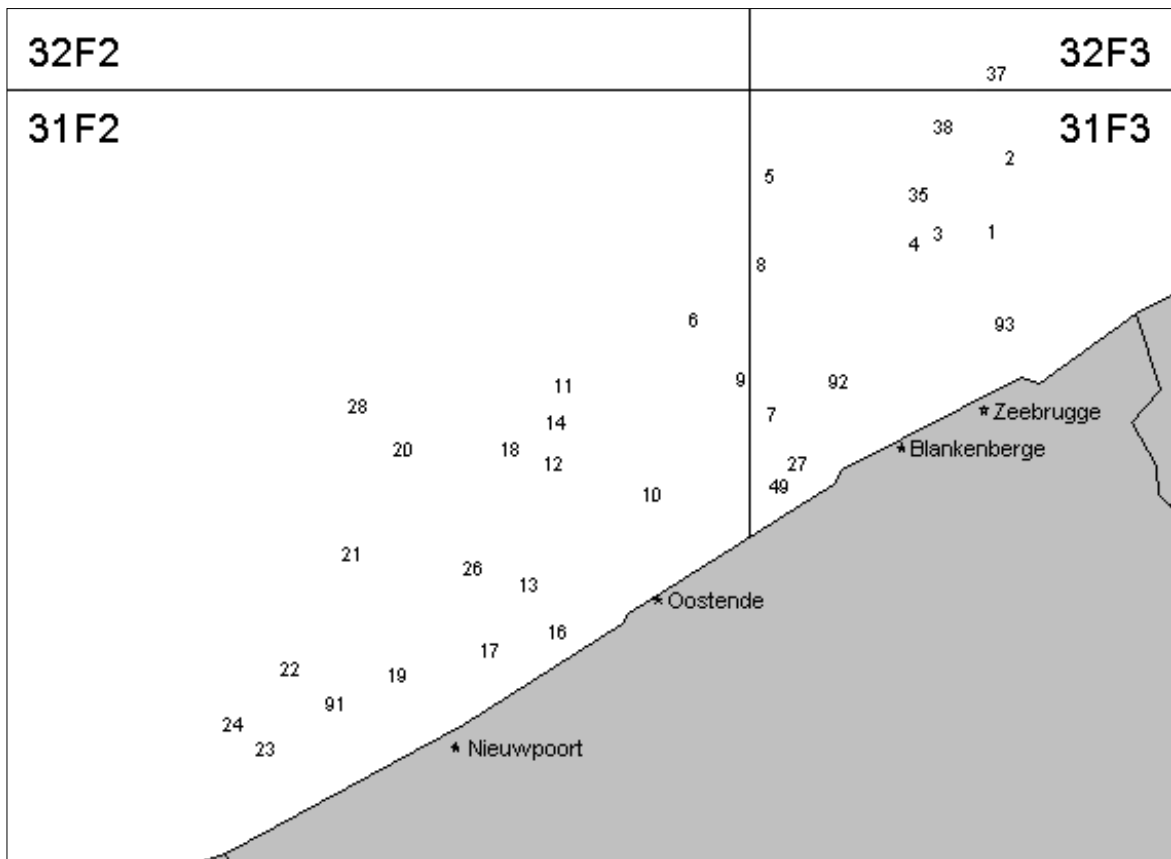


Figure 7.1. - DYFS sampling stations in the Belgian coastal waters.

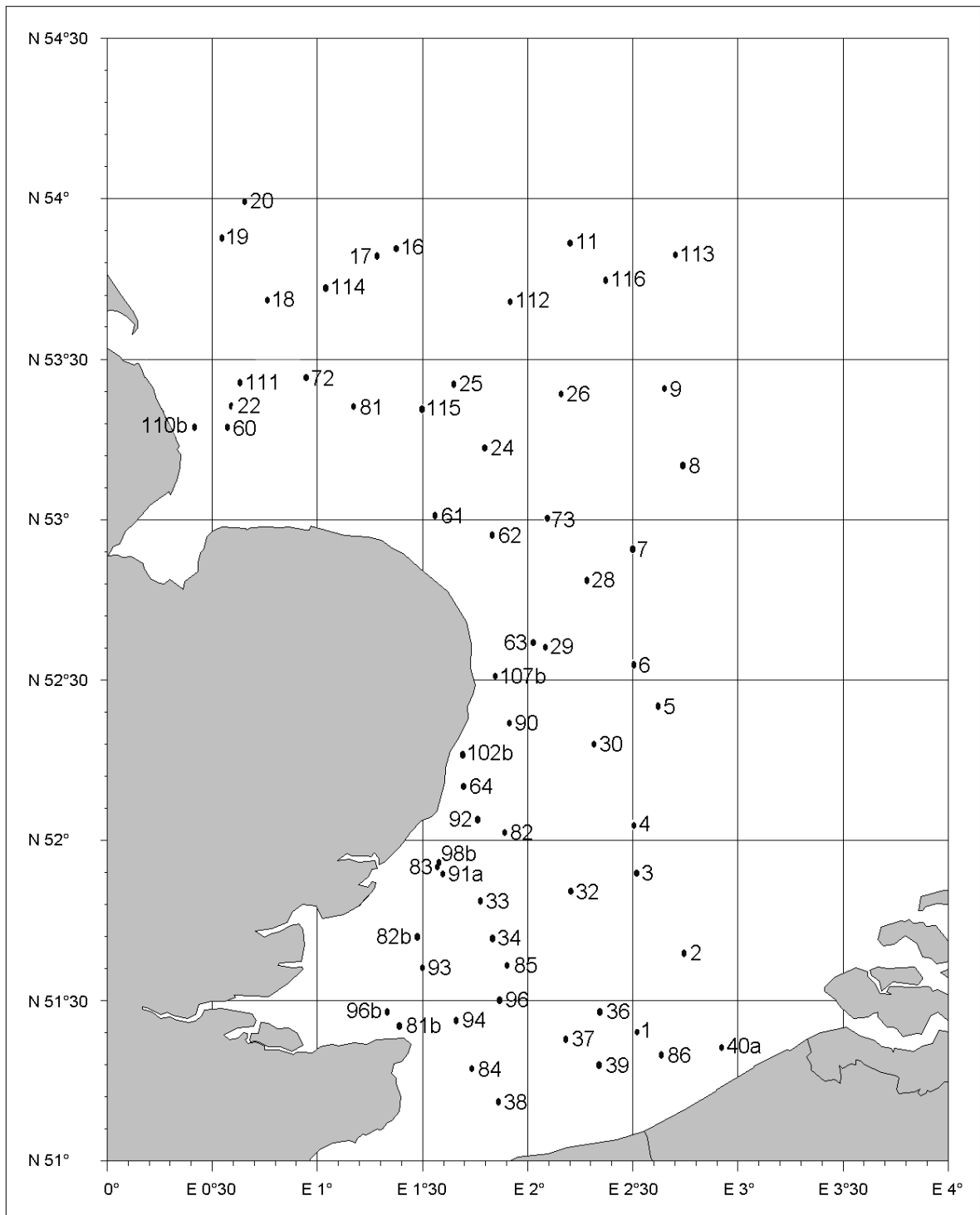


Figure 7.2. - BTS sampling stations fished by the RV 'Belgica' in the south-western part of the North Sea.

8 Module H - Length and age sampling of landings and discards

Institute in charge: Sea Fisheries Department

8.1 MP proposal - Landings

❖ Proposed sampling regimes for length and age

An overview of Belgian quota species is given in Table 8.1. The non-quota species included in Annex XV of the DCR are listed in Table 8.2., with the omission however of all areas and stocks that are not fished by the Belgian sea-going fishing fleet. Both tables also give the species and stocks for which derogation is requested, together with the exemption rules that were applied.

The species that will be sampled for length and age (where applicable) in 2006, and their respective sampling regimes are listed in the text table on page 25. For the sake of comparison, the table gives the number of length and age measurements *required* under the MP of the DCR (rounded to the nearest whole sample per unit weight landed, as defined in the introductory tables to Annex XV of the DCR), together with the *proposed* total numbers to be measured and aged. Additional information is also given on (a) whether the stock is in a critical state or under a Commission's Recovery Plan (in which case derogation for length or age is no longer applicable), and (b) whether the corresponding CPUE data series are used for tuning purposes.

For some species and stocks, the proposed numbers for length and age exceed the numbers required under the MP of the DCR. In the past, this has been labelled as 'over-sampling' ⁽²⁾ in the evaluation of the NDGP proposals. With respect to this issue however, SGRN has repeatedly stated that:

- Sampling in excess of the DCR requirements should be eligible for funding when it is justified to maintain the quality of CPUE data series under Module F.
- Additional sampling should be eligible for funding when it is required to satisfy the data needs for the assessment of stocks that are in a critical state.

For stocks other than those to which the above bullet points apply and that will be sampled in excess of the MP requirements, the 'excess sampling' will be at national expense. This more particularly applies to the sampling programs for rays (*Raja spp.*), lemon sole (*Microstomus kitt*), turbot (*Psetta maxima*), brill (*Scophthalmus rhombus*) and monkfish (*Lophius spp.*) (see text table on page 25).

Details on the length and age sampling programs for all species in the table on page 25 are given under the bullet points on pages 25-27.

⁽²⁾ Note that we prefer the expression 'sampling in excess of the MP requirements' rather than 'over-sampling'. The latter gives the impression that the same quality of data can be achieved with less sampling, which is not true for most cases.

Proposed sampling regimes for length and age							
Species	Area / Stock	Length sampling (a)		Age sampling (a)		Recovery stock	Tuning series
		Required ----- R	Planned ----- P	Required ----- R	Planned ----- P		
<i>Gadus morhua</i>	IV	400	1500	200	200	Y	N
	VIIa	50	(b)	0	(b)	Y	N
<i>Lophiidae</i>	VII	450	(b)	Not applicable		N	N
<i>Merluccius merluccius</i>	IIIa, IV, VI, VII, VIIIabc, IXa	100	(b)	20	(b)	Y	N
<i>Microstomus kitt</i>	IV	50	1200	Not applicable		N	N
<i>Nephrops norvegicus</i>	FU 5	2000	20600 (c)	Not applicable		N	Y
<i>Pleuronectes platessa</i>	IV	400	800	200	300	Y	N
	VIIa	1800	1800	450	450	N	N
	VIIId	2600	2600	650	650	N	Y
	VIIIfg	1700	1700	300	300	N	N
<i>Psetta maxima</i>	IV	50	200	50	200	N	N
<i>Rajidae</i>	IV	25	200	Not applicable		N	N
	VII (except VIIId)	50	200	Not applicable		N	N
<i>Solea solea</i>	IV	350	1200	175	300	N	Y
	VIIa	2200	2200	550	550	N	Y
	VIIId	2800	2800	700	700	N	Y
	VIIIfg	3600	3600	900	900	N	Y
	VIIIab	1200	1200	150	250	Y	N
<i>Scophthalmus rhombus</i>	IV	50	200	50	300	N	N

(a) Excess sampling is at national expense when the stock is not under a recovery plan or not used for tuning
(b) Numbers dependent on sampling opportunities during discard trips
(c) Inclusive of samples taken from Dutch trawlers landing their catches into Belgium

- ***Gadus morhua* in ICES Sub-areas IV and VIIa**

The cod stocks in ICES Sub-areas IV and VIIa are in a critical state and therefore, the Sea Fisheries Department will sample these stocks for both length and age in 2006.

Cod landed by the flatfish directed beam trawlers and the *Nephrops* trawlers operating in ICES Sub-area IV will be sampled at the auctions of Zeebrugge and Oostende. Sampling will be done from boxes randomly chosen per market category. The fish will be measured to the cm below. For the beam trawler fleet, a total of 4 to 6 samples of 250 fish each is planned for length, and 4 to 6 samples of 100 fish each for age. Sampling of the cod landings by the *Nephrops* fleet will be done concurrently with the discard sampling in this fishery (see Section 8.3 for details).

In ICES Sub-area VIIa, length and age sampling of the retained catches of cod will be done as part of the discard sampling program in the area (see Section 8.3 for details).

- ***Lophiidae* in ICES Sub-area VII**

From the 2002 pilot study set up for *Lophiidae* in ICES Sub-area VII, it appeared that this species is best sampled on-board during discard trips. At-sea sampling was initiated in 2003 and will continue in 2006, as part of the discard sampling program in the area (see Section 8.3 for details).

- ***Merluccius merluccius* northern stock**

Belgium will monitor the northern hake stock, which is currently subject to a Recovery Plan. Retained and discarded catches will be sampled for length and age on all discard trips in ICES areas VIIa, VIId, VIIfg and VIIIab (see Section 8.3 for details).

- ***Microstomus kitt* in ICES Sub-area IV**

Length samples of lemon sole will be taken on a quarterly basis in the auctions of Zeebrugge and Oostende. Length measurements will be to the cm below. The minimum sampling intensities required by the DCR are considered to be insufficient for stock assessment purposes and therefore, sampling intensities will be increased. The proposed sampling regime is set at 4-6 samples of 200 fish each (costs incurred from sampling in excess of the MP requirements will be at national expense).

- ***Nephrops norvegicus* in Functional Unit 5 (ICES Sub-area IVbc)**

Nephrops sampling will be focused on the Botney Gut - Silver Pit stock (FU 5, southern North Sea) – the only stock from which Belgium is landing substantial quantities of *Nephrops*. Smaller quantities (< 50 t per year) are also taken from other *Nephrops* stocks (such as the Off Horn Reef stock, FU 33, southern North Sea), but these are too small to justify a regular sampling program.

Sampling of the *Nephrops* landings will be done once a month in January-May and November-December (the low season for *Nephrops*) and twice a month in June-October (the peak season) in the auctions of Zeebrugge and Oostende, by means of a system of length-stratified sampling. From each market category (small, medium and large whole *Nephrops*, and *Nephrops* tails), a full box is picked *ad random*, and from each box 200-300 animals are taken (from top to bottom, to avoid biases due to the presentation of the boxes) for measurement. Whole *Nephrops* are measured in the auction (carapace length, CL, to the nearest 1 mm), whereas the tails are purchased from the ship owners and measured in the lab (width of the 5th abdominal segment, Ab5, to the nearest 0.5 mm). Ab5 measurements are converted to CL by means of two Ab5-CL-keys (one for males and one for females), and a so-called re-distribution technique (to avoid over- or under-estimation of the numbers-at-length in individual 1 mm CL size classes owing to rounding of the converted figures).

- ***Pleuronectes platessa* in ICES Sub-areas IV and VII, and *Solea solea* in ICES Sub-areas IV, VII and VIII**

In previous years, plaice and sole were routinely sampled at the market on a quarterly basis. From each market category, one box was randomly chosen for length measurements (stratified sampling, to the cm below). This allowed the calculation of the overall length distribution of the landings by Belgian fishing vessels for each species and TAC area. In

addition, length stratified samples were taken for age determination. By applying the appropriate age-length-keys (ALKs), the length distributions of the two species were then converted into age compositions by quarter and by TAC area. As far as possible, this strategy will also be followed in 2006.

Over the past years however, Belgium has experienced increasing difficulties to maintain this sampling scheme (with ship owners refusing to have their landings sampled, vessels fishing in different ICES Sub-areas and landing 'blended' catches, etc.). Therefore, the Sea Fisheries Department has been looking for alternative sampling strategies.

In an attempt to overcome the problems associated with the 'blended' landings, special sampling agreements will be made with co-operative ship owners and skippers. The basic idea is that the crew tags unsorted boxes of their plaice and sole catches on-board, so that they can be traced back to the ICES Sub-area from which they originate. The fish in these boxes can then be sampled for length and/or age upon arrival in port and before they get 'blended' in the auction's grading machines.

Since such a system of 'self-sampling' bears the risk of being subjective (even though in this case, the fishermen do not perform the length and age measurements themselves), a verification mechanism is being elaborated, based on the comparison of the length compositions of the samples provided by the contracted vessels with the length compositions measured by sea-going observer on vessels operating in the same area in the same period of the year.

- ***Psetta maxima* and *Scophthalmus rhombus* in ICES Sub-area IV**

Sampling for length and age for both species will be done on a quarterly basis in the auctions of Zeebrugge and Oostende. Samples will be taken from boxes randomly chosen per market category. The sampling intensities required under the MP of the DCR are considered to be insufficient for stock assessment purposes, and will therefore be increased to the levels given in the text table on page 25 (costs incurred from sampling in excess of the MP requirements will be at national expense).

- ***Rajidae* in ICES Sub-area IV and ICES Sub-area VII (except VIIId)**

The outcome of the 2002 pilot study on the Belgian ray landings from ICES Sub-area IV showed that *Raja clavata* and *R. montagui* (and to a lesser extent *R. brachyura*) are the commonest species taken in the area. All three species will be sampled for total length in 2006. The sampling intensities required under the MP (25 measurements annually for the three species combined) are considered to be insufficient and therefore, sampling intensities will be increased at national expense. The proposed sampling levels are shown in the text table on page 25.

Five species of ray are regularly landed by Belgian trawlers from Sub-area VII (except VIIId), viz. *Leucoraja circularis*, *L. naevus*, *Raja brachyura*, *R. clavata* and *R. montagui*. In 2006, all species will be sampled (for length only) in the auctions of Zeebrugge and Oostende. Sampling intensities required under the MP (50 measurements annually for the five species combined) are considered to be far too low to produce workable length frequencies. Therefore, sampling intensities will be increased at national expense (see text table on page 25).

❖ **Sampling of landings abroad and of landings by foreign vessels**

With respect to the landings by Belgian vessels into other MS, a distinction must be made between (a) vessels transiting their catches in a foreign harbour (mostly in the UK, occasionally in the Netherlands and France) for transportation to and first sale in a Belgian auction, and (b) vessels actually landing and selling their catches abroad (mostly in the Netherlands, occasionally in the UK).

Landings by foreign flag vessels for first sale in a Belgian auction are marginal compared to the landings into these vessels' home countries, except for *Nephrops*. Landings of this species, particularly by Dutch vessels, went up from virtually nothing in 2002 to over 120 t in 2004 (i.e. about one fifth of all foreign flag vessel landings into Belgium, and about one third of all *Nephrops* sold in Belgian auctions).

• **Belgian landings into the UK and UK landings into Belgium**

Sampling of the landings by Belgian vessels into the UK (mostly for transportation to a Belgian auction, rarely for first sale in the UK) and by UK vessels into Belgium, is subject to a bilateral agreement between the Sea Fisheries Department on the Belgian side and CEFAS (Lowestoft) on the UK side. A copy of this agreement is attached to the program proposal (see page 48).

• **Belgian landings into the Netherlands and Dutch landings into Belgium**

Landings by Belgian vessels into the Netherlands for first sale in a Dutch auction will be sampled by RIVO (IJmuiden). Landings by Belgian vessels into the Netherlands for transportation to and first sale in a Belgian auction will be sampled by the Sea Fisheries Department upon arrival of the landings in Belgium. Sampling of these landings was taken into account when calculating the sampling levels in the text table on page 25.

The *Nephrops* landings by Dutch vessels into Belgium for first sale in a Belgian auction will be sampled by the Sea Fisheries Department, *pro rata* of one sample per month, in all months when such landings take place. Sampling protocols are the same as for the Belgian *Nephrops* landings (see page 26 for details). The exact number of samples that will eventually be taken is difficult to foresee, since the frequency and duration of the Dutch *Nephrops* landings into Belgium are strongly driven by local market conditions (at the moment, there is no indication whether these landings will continue in 2006 at the same pace as in 2004, nor on the volume of landings that can be expected).

• **Belgian landings into France and French landings into Belgium**

Landings by Belgian vessels into France for transportation to and first sale in a Belgian auction, will be sampled by the Sea Fisheries Department upon arrival of the landings in Belgium. Sampling of these landings was taken into account when calculating the sampling levels in the text table on page 25. Landings by French vessels into Belgium for first sale in a Belgian auction are marginal (approx. 80 t in 2004).

• **Other**

Belgian landings (either for first sale or for transportation to a Belgian auction) in other countries than the UK, the Netherlands and France are negligible. The same applies to the

landings by other flag vessels (i.e. other than from the UK, the Netherlands and France) for first sale into Belgium (approx. 65 t in 2004, mostly by Irish vessels).

8.2 EP proposal - Landings

Belgium does not apply for an EP under this Module of the DCR.

8.3 MP proposal - Discards

Length and age sampling of the discards will be focused on those fisheries where the Belgian fleet can be expected to substantially contribute to discarding (in relative terms), in view of its share in the TACs or the international landings: the flatfish directed beam trawl fisheries in ICES Sub-areas VIIa, VIId, VIIfg and VIIIab, and the *Nephrops* directed fishery in the southern North Sea (FU 5, Botney Gut - Silver Pit area).

- **Flatfish directed beam trawl fisheries in ICES Sub-areas IV, VII and VIII**

In 2006, sea-going observers will monitor the discards in the Belgian beam trawl fisheries in ICES Sub-areas VIIa (Irish Sea), VIId (eastern English Channel), VIIfg (Celtic Sea) and VIIIab (inner Bay of Biscay). These areas were selected in view of the Belgian share in the local flatfish landings. In Sub-areas VIIa, VIId and VIIfg, the Belgian share in the international plaice and sole landings is considerable (from ~ 20 % to ~ 75 %) and it is even more important when only the landings by beam trawlers are taken into account (see text table below). In Sub-area VIIIab, Belgium is the only major player in the sole fishery next to France, with > 25 % of the total trawl landings of sole. Conversely, the Belgian shares in the plaice and sole landings from the North Sea are relatively small (~ 10 % at the most), despite the overall volume of the landings from this area (see Table 1.1).

Relative share (in %) of Belgian beam trawler landings in total international landings of plaice and sole				
ICES Sub-area	Plaice		Sole	
	vs. Landings all gears combined	vs. Landings by beam trawlers	vs. Landings all gears combined	vs. Landings by beam trawlers
IV	~ 6	~ 8	~ 9	~ 10
VIIa	~ 40	~ 75	~ 75	~ 80
VIId	~ 20	>> 20	~ 30	>> 30
VIIfg	~ 65	> 65	~ 70	> 70
VIIIab	Landings almost negligible		~8	>> 25

The time periods during which observers will be sent at sea and the numbers of observer trips planned are given in the text table on next page. In most areas, fishing by the Belgian beam trawler fleet is limited to certain quarters of the year (depending on catch rates and quota availability) and the observer trips are scheduled accordingly. The default frequency is set at two observer trips per quarter in those quarters when fishing is expected to be most

intense. This can however be adjusted, depending on the circumstances (changes in fleet behaviour, temporal closures of TAC areas, etc.).

Time-schedule for observer trips in the flatfish directed beam trawl fisheries				
Area	Quarter 1	Quarter 2	Quarter 3	Quarter 4
IV	Opportunistic (a)	Opportunistic (a)	Opportunistic (a)	Opportunistic (a)
VIIa	XX	XX	X	X
VIIId	XX	X	X	XX
VIIe	Opportunistic (a)	Opportunistic (a)	Opportunistic (a)	Opportunistic (a)
VIIIfg	XX	XX	X	X
VIIIab	None	X	XX	None

(a) Not planned as such, but sampled as opportunities arise when observer trips extend into these areas
None = No sampling, as landings in this quarter are marginal
X = None, 1 or 2, depending on quota remaining and/or uptake
XX = 2 observer trips

For all Annex XII and Annex XV species of the DCR, annual estimates will be made of their total weight in the discards. This is in excess of the requirements of the DCR, but the time needed to collect these data is marginal compared to the core of the discard sampling program, which is primarily focused on the most abundant commercial species. The text table on next page gives an overview of the species for which also length and age (where applicable) will be measured during the observer trips. In addition to the length and age measurements on the discards, length measurements will also be made on the *retained* catches of plaice, sole and monkfish, and both length and age measurements on the *retained* catches of cod, haddock, whiting and hake (depending on the area – see text table on next page).

Sending observers at sea is very expensive and therefore, in previous years' programs, it was decided to give priority to those areas where Belgium takes a considerable part of the flatfish landings. Consequently, until now, the North Sea beam trawler fleet has never been subject to a regular discard sampling program. The North Sea fleet will however continue to be sampled on an 'opportunistic' basis in 2006, each time an observer trip in an adjacent area is extended into the (southern) North Sea by an *ad hoc* decision of the skipper. The same strategy will also be applied to the western English Channel (ICES Sub-area VIIe). In addition, the Sea Fisheries Department has applied for a FIOV project under EC Regulation 2792/99, whose main aim it is to improve collaboration between fishers and scientists through joint data collection exercises on the retained and discarded catch fractions of beam trawlers operating in the Celtic Sea and the North Sea. This 2-years project is expected to start in 2006, and includes an extensive discard sampling program (with two extra sea-going observers) for the flatfish directed beam trawl fishery in the North Sea.

- ***Nephrops* directed fishery in Functional Unit 5 (ICES Sub-area IVbc)**

The pilot study that was performed in 2002 and 2003 provided the basis for the routine discard sampling programs on the *Nephrops* fishery in 2004 and 2005. The program will be continued without major changes in 2006. Its main aim is to gather information on the quantities and the size distributions of both the *Nephrops* and the finfish discards in the *Nephrops* directed fishery in the Botney Gut - Silver Pit area (southern North Sea). As far

as finfish are concerned, the focus will be on the species in Annex XII and Annex XV of the DCR. An overview of the species that will be sampled for length (in addition to the estimates of their weight) is given in the text table below.

Type of measurements that are part of the discard studies							
Species	Flatfish directed beam trawl fisheries (a)						Nephrops fisheries
	IVbc	VIIa	VIIId	VIIe	VIIIfg	VIIIab	FU 5
<i>Gadus morhua</i>	L & A	L & A	L & A	L & A	L & A	W	L
<i>Limanda limanda</i>	W	W	W	W	W	W	L
<i>Lophius budegassa</i>	NA	NA	NA	NA	NA	L	NA
<i>Lophius piscatorius</i>	L	L	L	L	L	L	L
<i>Melanogrammus aeglefinus</i>	L & A	L & A	L & A	L & A	L & A	W	L
<i>Merlangius merlangus</i>	L & A	L & A	L & A	L & A	L & A	W	L
<i>Merluccius merluccius</i>	L & A	L & A	L & A	L & A	L & A	L & A	L
<i>Microstomus kitt</i>	W	W	W	W	W	W	L
<i>Nephrops norvegicus</i>	W	W	NA	NA	W	W	L
<i>Pleuronectes platessa</i>	L & A	L & A	L & A	L & A	L & A	W	L
<i>Solea solea</i>	L & A	L & A	L & A	L & A	L & A	L & A	L
<i>Triglidae</i>	NA	NA	NA	NA	NA	NA	L
All other Annex XII & Annex XV species	W	W	W	W	W	W	L

(a) Measurements in IVbc and VIIe depending on sampling opportunities (see text for details)
L = Length and weight measurements
A = Age readings
W = Weigh measurements only
NA = Not applicable (not required by Regulation or species does not occur in that area)

Discard sampling will be done through a system of 'self-sampling', by which discard samples are collected on a regular basis (once every month) by fishermen, and supplied to the Sea Fisheries Department for further analysis. To that aim, the existing agreement with the skipper/owner of a full-time *Nephrops* trawler (fishing for *Nephrops* year-round) will be prolonged in 2006. A copy of this agreement, in Dutch, was attached to last year's program proposal. So far, this system has proven to work satisfactorily and to provide an acceptable alternative to the much more expensive sea-going observers. In 2003, several unsuccessful attempts were made to establish similar arrangements with the skippers/owners of part-time *Nephrops* trawlers (fishing for *Nephrops* during the peak season only, typically between June and October), to obtain a more comprehensive picture of the discarding practices in this fishery. Meanwhile however, the Belgian *Nephrops* fleet has shrunk to such a small number of vessels (basically one full-time and about 10 occasional *Nephrops* trawlers only) that this idea has been dropped.

The analysis of the discard samples consists of replicate sub-sampling of their *Nephrops* and finfish contents, and of length measurements by species (on all Annex XII and Annex XV species). The purpose of taking replicate sub-samples instead of treating the samples as one, is to get an idea of the precision levels of the length measurements.

As in 2003, 2004 and 2005, the program will also include length measurements on the landings of the species listed in the text table above, so that the discards can directly be

related to the landings, and that estimates of the size compositions of the catches as a whole can be made. Sampling of the landings will be done in concert with the delivery of the discard samples, i.e. once a month.

In its December 2003 report, SGRN addressed the issue of self-sampling and made the following comments: "*In general, SGRN prefers sea-going observers over self-sampling as a means to collect discard information (be it on quantities discarded or on their length and/or age composition), particularly since for the latter, data quality is often difficult to check and to guarantee. However, SGRN also recognises that in some particular cases, self-sampling might be the only workable way to collect discard information. SGRN insists that all MS currently applying or planning self-sampling programs, operate some form of verification on a regular basis.*" Following this recommendation, such a verification exercise was performed in August-September 2004, concurrently with the six-yearly updates of *Nephrops* sexual maturity (see 2004 Technical Report). The analysis of the data is still underway, but the first results suggest that the system of 'self-sampling' works satisfactorily.

8.4 EP proposal - Discards

Belgium does not apply for an EP under this Module of the DCR.

8.5 Budget

Details on the budget for this Module are given in Appendices 9 (Length and age sampling of landings) and 10 (Length and age sampling of discards).

With respect to Appendix 10, it should be stressed that the proposed budget also includes the costs for the estimation of the overall quantities of Annex XII fish and shellfish species discarded by the Belgian fleet (also see Section 5.3). These costs however, were estimated to be small compared to the costs for length and age sampling.

Table 8.1. - Overview of Belgian quota species, and of exemption criteria applied (if any)
 Species and stocks that will be sampled for length or for length and age are shown in red

Species	Area or Stock	Belgian quotum 2005	Average landings 2002-2004 (1) (2)	Share of EC TAC (2)	Sum of quota < 5 %	Sum of quota < 10 %	NDGP Module H		NDGP Module I
							Length (3)	Age (3)	Biological parameters (3)
<i>Clupea harengus</i>	I, II	27	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Clupea harengus</i>	IVc, VIId	9684	< 100	> 10 %	< 15 %	< 25 %	E	E	E
<i>Gadus morhua</i>	Ila, IV	807	1568	< 5 %	< 15 %	< 25 %	S	S	E
<i>Gadus morhua</i>	IIla, Skagerrak and Kattegat	10	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Gadus morhua</i>	Vb, VI, XII, XIV	1	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Gadus morhua</i>	VIIa	29	150	< 5 %	< 15 %	< 25 %	S	S	E
<i>Gadus morhua</i>	VIIb-k, VIII, IX, X, CECAF 34.1.1	266	342	< 5 %	< 15 %	< 25 %	E	E	E
<i>Lepidorhombus</i> spp.	Ila, IV	5	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Lepidorhombus</i> spp.	VII	520	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Limanda limanda</i> and <i>Platichthys flesus</i>	Ila, IV	491	627	< 5 %	< 15 %	< 25 %	E	E	E
Lophiidae	Ila, IV	319	306	< 5 %	< 15 %	< 25 %	E	E	E
Lophiidae	Vb, VI, XII, XIV	168	< 100	< 5 %	< 15 %	< 25 %	E	E	E
Lophiidae	VII	2318	930	5 % < x < 10 %	< 15 %	< 25 %	S	E	E
<i>Melanogrammus aeglefinus</i>	Ila, IV	544	366	< 5 %	< 15 %	< 25 %	E	E	E
<i>Melanogrammus aeglefinus</i>	IIla-d	18	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Melanogrammus aeglefinus</i>	Vb, VI, XII, XIV	19	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Melanogrammus aeglefinus</i>	VII, VIII, IX, X, CECAF 34.1.1	128	135	< 5 %	< 15 %	< 25 %	E	E	E
<i>Merlangius merlangus</i>	Ila, IV	605	181	< 5 %	< 15 %	< 25 %	E	E	E
<i>Merlangius merlangus</i>	VIIa	1	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Merlangius merlangus</i>	VIIb-k	211	197	< 5 %	< 15 %	< 25 %	E	E	E
<i>Merluccius merluccius</i>	Ila, IV	21	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Merluccius merluccius</i>	Vb, VI, VII, XII, XIV	220	< 100	< 5 %	< 15 %	< 25 %	S	E	E
<i>Merluccius merluccius</i>	VIIIabde	7	< 100	< 5 %	< 15 %	< 25 %	S	E	E
<i>Microstomus kitt</i> and <i>Glyptocephalus cynoglossus</i>	Ila, IV	352	564	5 % < x < 10 %	< 15 %	< 25 %	S	E	E
<i>Nephrops norvegicus</i>	Ila, IV, by Functional Unit	1117	242	5 % < x < 10 %	< 15 %	< 25 %	S	NA	S
<i>Pleuronectes platessa</i>	Ila, IV	3530	4091	5 % < x < 10 %	< 15 %	< 25 %	S	S	E
<i>Pleuronectes platessa</i>	IIla, Skagerrak and Kattegat	46	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Pleuronectes platessa</i>	VIIa	41	471	< 5 %	< 15 %	< 25 %	S	S	E
<i>Pleuronectes platessa</i>	VIIde	843	1287	> 10 %	< 15 %	< 25 %	S	S	S
<i>Pleuronectes platessa</i>	VIIIfg	73	323	> 10 %	< 15 %	< 25 %	S	S	S
<i>Pleuronectes platessa</i>	VIIhjk	29	< 100	5 % < x < 10 %	< 15 %	< 25 %	E	E	E
<i>Pollachius pollachius</i>	VII	529	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Pollachius virens</i>	Ila, IIla-d, IV	51	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Pollachius virens</i>	Vb (Faroër)	50	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Pollachius virens</i>	VII, VIII, IX, X, CECAF 34.1.1	14	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Psetta maxima</i> and <i>Scophthalmus rhombus</i>	Ila, IV	334	341	5 % < x < 10 %	< 15 %	< 25 %	S	E	E
Rajidae	Ila, IV	542	344	> 10 %	< 15 %	< 25 %	S	NA	S

Table 8.1. (continued) - Overview of Belgian quota species, and of exemption criteria applied (if any)

Species and stocks that will be sampled for length or for length and age are shown in red

Species	Area or Stock	Belgian quotum 2005	Average landings 2002-2004 (1) (2)	Share of EC TAC (2)	Sum of quota < 5 %	Sum of quota < 10 %	NDGP Module H		NDGP Module I
							Length (3)	Age (3)	Biological parameters (3)
<i>Scomber scombrus</i>	Ila, IIIa-d, IV	148	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Sebastes spp.</i>	Va		< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Sebastes spp.</i>	Vb (Faroër)	29	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Solea solea</i>	II, IV	1527	1463	5 % < x < 10 %	< 15 %	< 25 %	S	S	E
<i>Solea solea</i>	VIIa	474	571	> 10 %	< 15 %	< 25 %	S	S	S
<i>Solea solea</i>	VIIId	1535	1403	> 10 %	< 15 %	< 25 %	S	S	S
<i>Solea solea</i>	VIIe	31	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Solea solea</i>	VIIIfg	625	896	> 10 %	< 15 %	< 25 %	S	S	S
<i>Solea solea</i>	VIIhjk	54	< 100	5 % < x < 10 %	< 15 %	< 25 %	E	E	E
<i>Solea solea</i>	VIIIab	51	296	< 5 %	< 15 %	< 25 %	S	S	E
<i>Sprattus sprattus</i>	Ila, IV	2877	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Sprattus sprattus</i>	VIIId	38	< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Squalus acanthias</i>	Ila, IV		< 100	< 5 %	< 15 %	< 25 %	E	E	E
<i>Trachurus spp.</i>	Ila, IV	64	< 100	< 5 %	< 15 %	< 25 %	E	E	E

(1) Landings after quota swapping ; Figures rounded to the nearest 5 t

(2) Exemption criteria applied are shown in bold

(3) S = Sampling will be carried out in 2006 ; E = Exemption requested ; NA = Not applicable

Table 8.2.a. - Overview of non-quota species, and of exemption criteria applied (if any)
Species and stocks that will be sampled for length or for length and age are shown in red

Species	Area or Stock : ICES Sub-areas III, IV and VII d	Comment	Average landings 2002-2004 (1) (2)	Sum of shares < 5 %	Sum of shares < 10 %	NDGP Module H		NDGP Module I
						Length (3)	Age (3)	Biological parameters (3)
<i>Ammodythiidae</i>	IVc, VII d		None			E	E	E
<i>Anarhichas spp</i>	IIIa, Skagerrak and Kattegat	Not in MP				E	E	E
<i>Argentina spp</i>	IV	Not in MP				E	E	E
<i>Brosme brosme</i>	IV	Not in MP				E	E	E
<i>Dicentrarchus labrax</i>	IV, VII d		< 100	?	?	E	E	E
<i>Glyptocephalus cynoglossus</i>	IV	Not in MP				E	E	E
<i>Helicolenus dactylopterus</i>	IIIa-d	Not in MP				E	E	E
<i>Lepidorhombus boscii</i>	VII d		< 100	< 15 %	< 25 %	E	E	E
<i>Lepidorhombus wiffiagonis</i>	VII d		< 100	< 15 %	< 25 %	E	E	E
<i>Limanda limanda</i>	VII d	Not in MP				E	E	E
<i>Lophius budegassa</i>	VII d		< 100	< 15 %	< 25 %	E	E	E
<i>Lophius piscatorius</i>	VII d		< 100	< 15 %	< 25 %	E	E	E
<i>Macrouris berglax</i>	IIIa, Skagerrak and Kattegat	Not in MP				E	E	E
<i>Micromesistius poutassou</i>	IV		NRS			E	E	E
<i>Microstomus kitt</i>	IIa, IIIa-d, IV		< 100	< 15 %	< 25 %	E	E	E
<i>Molva dypterygia</i>	IV	Not in MP				E	E	E
<i>Molva molva</i>	IV	Not in MP				E	E	E
<i>Mullus barbatus</i>	IV, VII d		NRS			E	E	E
<i>Mullus surmuletus</i>	IV, VII d		< 100	?	?	E	E	E
<i>Pandalus borealis</i>	IV		None			E	E	E
<i>Pecten spp.</i>	VII d		< 5 % of EU share	< 15 %	< 25 %	E	E	E
<i>Phycis phycis</i>	I, II	Not in MP				E	E	E
<i>Psetta maxima</i>	VII d		< 100	< 15 %	< 25 %	E	E	E
<i>Rajidae</i>	VII d		< 100	< 15 %	< 25 %	E	E	E
<i>Reinhardtius hippoglossoides</i>	IV	Not in MP				E	E	E
<i>Salmo salar</i>	IV	Not in MP				E	E	E
<i>Scomber scombrus</i>	VII d		None			E	E	E
<i>Scopthalmus rhombus</i>	VII d		< 5 % of EU share	< 15 %	< 25 %	E	E	E
<i>Sebastes spp.</i>	IV	Not in MP				E	E	E
<i>Selachii</i>	IV	Not in MP				E	E	E
<i>Selachii</i>	IV, VII d	Not in MP				E	E	E
<i>Squalus acanthias</i>	IV, VII d	Not in MP				E	E	E
<i>Trachurus spp.</i>	VII d		None	< 15 %	< 25 %	E	E	E

(1) Landings figures rounded to the nearest 5 t ; NRS = Not recorded separately but assumed to be less than 100 t

(2) Exemption rules applied are shown in bold

(3) S = Sampling will be carried out in 2006 ; E = Exemption requested ; NA = Not applicable

Table 8.2.b. - Overview of non-quota species, and of exemption criteria applied (if any)
Species and stocks that will be sampled for length or for length and age are shown in red

Species	Area or Stock : ICES Sub-areas II, V, VI, VII (excl. VIIId), VIII, IX, X, XII and XIV	Comment	Average landings 2002-2004 (2)	Sum of quota < 5 %	Sum of quota < 10 %	NDGP Module H		NDGP Module I
						Length (3)	Age (3)	Biological parameters (3)
<i>Aphanopus spp.</i>	All areas (excl. IXa, X)	Not in MP				E	E	E
<i>Aphanopus spp.</i>	VIIde		None			E	E	E
<i>Argentina spp.</i>	VIIIfg	Not in MP				E	E	E
<i>Argyrosoma regium</i>	VIIhjk	Not in MP				E	E	E
<i>Beryx spp.</i>	X		None			E	E	E
<i>Beryx spp.</i>	All areas (excl. X)	Not in MP				E	E	E
<i>Busycon spp.</i>	IIa, IIIa-d, IV	Not in MP				E	E	E
<i>Cancer pagurus</i>	All areas		< 100	< 15 %	< 25 %	E	E	E
<i>Clupea harengus</i>	VIIId		None			E	E	E
<i>Conger conger</i>	All areas, excl. IX, X	Not in MP				E	E	E
<i>Conger conger</i>	VIIIfg		< 100			E	E	E
<i>Coryphaenoides rupestris</i>	VIIhjk		None			E	E	E
<i>Dicentrarchus labrax</i>	VIIIab		NRS			E	E	E
<i>Dicentrarchus labrax</i>	VIIde	Not in MP				E	E	E
<i>Engraulis encrasicolus</i>	IXa, only Cadiz		None			E	E	E
<i>Engraulis encrasicolus</i>	VIII		None			E	E	E
<i>Gadus morhua</i>	VIa, VIb, VIIa, VIIb-k, VIII, XII, XIV		< 5 % of EU share	< 15 %	< 25 %	E	E	E
<i>Glyptocephalus cynoglossus</i>	VI, VII	Not in MP				E	E	E
<i>Helicolenus dactylopterus</i>	IXa, X		None			E	E	E
<i>Helicolenus dactylopterus</i>	All areas (excl. IXa, X)	Not in MP				E	E	E
<i>Homarus gammarus</i>	All areas		< 100			E	E	E
<i>Hoplostethus atlanticus</i>	All areas		None			E	E	E
<i>Lepidorhombus boscii</i>	Vb, VI, XII, XIV, VII, VIIIa-e		< 100	< 15 %	< 25 %	E	E	E
<i>Lepidorhombus whiffiagonis</i>	Vb, VI, XII, XIV, VII, VIIIa-e		< 100	< 15 %	< 25 %	E	E	E
<i>Loligo vulgaris</i>	All areas (excl. VIIIc, IXa)	Not in MP				E	E	E
<i>Loligo vulgaris</i>	VIIIc, IXa		None			E	E	E
<i>Mallotus villosus</i>	XIV		None			E	E	E
<i>Microchirus variegatus</i>	All areas	Not in MP				E	E	E
<i>Microstomus kitt</i>	All areas	Not in MP				E	E	E
<i>Molva dypterygia</i>	All areas (excl. X)	Not in MP				E	E	E
<i>Molva dypterygia</i>	X		None			E	E	E
<i>Molva molva</i>	All areas		< 100	< 15 %	< 25 %	E	E	E
<i>Mullus surmuletus</i>	All areas		NRS			E	E	E
<i>Octopus vulgaris</i>	All areas (excl. VIIIc, IXa)		< 100	< 15 %	< 25 %	E	E	E
<i>Octopus vulgaris</i>	VIIIc, IXa		None			E	E	E
<i>Pandalus spp.</i>	All areas (excl. VIIIc, IXa)		None			E	E	E
<i>Pandalus spp.</i>	VIIIc, IXa		None			E	E	E
<i>Phycis phycis</i>	X		None			E	E	E
<i>Phycis phycis</i>	All areas (excl. X)		None			E	E	E
<i>Polyprion americanus</i>	X		None			E	E	E

Table 8.2.b. (continued) - Overview of non-quota species, and of exemption criteria applied (if any)

Species and stocks that will be sampled for length or for length and age are shown in red

Species	Area or Stock : ICES Sub-areas II, V, VI, VII (excl. VIII), VIII, IX, X, XII and XIV	Comment	Average landings 2002-2004 (2)	Sum of quota < 5 %	Sum of quota < 10 %	NDGP Module H		NDGP Module I
						Length (3)	Age (3)	Biological parameters (3)
<i>Rajidae, of which:</i>	All areas		1323			S	NA	S
<i>Raja brachyura</i>	All areas		245 (4)			S	NA	S
<i>Raja clavata</i>	All areas		460 (4)			S	NA	S
<i>Raja montagui</i>	All areas		210 (4)			S	NA	S
<i>Raja naevus</i>	All areas		155 (4)			S	NA	S
<i>Reinhardtius hippoglossoides</i>	Va, XII, XIV		None			E	E	E
<i>Salmo salar</i>	All areas	Not in MP				E	E	E
<i>Sardina pilchardus</i>	VIII, IX		None			E	E	E
<i>Scomber japonicus</i>	VIII, IX		None			E	E	E
<i>Sepia officinalis</i>	All areas (excl. VIIIc, IXa)	Not in MP				E	E	E
<i>Sepia officinalis</i>	VIIIc, IXa		None			E	E	E
<i>Solen spp.</i>	All areas	Not in MP				E	E	E
<i>Sparidae</i>	All areas (ex VIIIc, IXa, X)	Not in MP				E	E	E
<i>Sparidae</i>	VIIIc, IXa, X		None			E	E	E
<i>Squalus achantias</i>	All areas	Not in MP				E	E	E
<i>Trachurus mediterraneus</i>	VIII, IX	Not in MP				E	E	E
<i>Trisopterus esmarkii</i>	All areas (excl. VIIIc, IXa)	Not in MP				E	E	E
<i>Trisopterus esmarkii</i>	VIIIc, IXa		None			E	E	E
<i>Other Deepwater species</i>	All areas	Not in MP				E	E	E

(1) Landings figures rounded to the nearest 5 t ; NRS = Not recorded separately but assumed to be less than 100 t

(2) Exemption rules applied are shown in bold

(3) S = Sampling will be carried out in 2006 ; E = Exemption requested ; NA = Not applicable

(4) Estimates for 2002; species segregation for 2003 and 2004 not yet available

9 Module I - Other biological sampling

Institute in charge: Sea Fisheries Department

9.1 MP proposal

A multi-annual sampling scheme for biological parameters (2002-2006) is given in Table 9.1. This table should allow the Evaluators to get better view of the updates that have already been performed or that will be performed in the years to come. Species and stocks listed in Annex XVI of the DCR but not in Table 9.1. will **not** be investigated (see Tables 8.1. and 8.2. for details on the exemption rules applied).

No roundfish species are included in the proposal, because (a) in Belgium, all roundfish are landed gutted, which makes it impossible to determine sex, maturity or fecundity, and (b) the roundfish samples obtained during the scientific surveys (see Section 7.1) are limited, as these surveys are primarily directed towards plaice and sole.

- ***Nephrops norvegicus* in Functional Unit 5 (ICES Sub-area IVbc)**

Sex ratio data are routinely collected during all market and discard sampling programs for *Nephrops* (see Sections 8.1 and 8.3). Data by sex are a prerequisite to the *Nephrops* stock assessments, since these are done for males and females separately. Data by sex (for females complemented with records of the ovigerous condition) are also essential to the understanding of the state of the stock in general, since they provide vital information on the year-to-year differences in (a) the proportions of males and females in the catches, and (b) reproductive success.

Six-yearly updates of male and female **sexual maturity** were performed in 2004 (see 2004 Technical Report) and will not be repeated in the years to come.

Following the recommendations of the 'Lisbon Group' ⁽³⁾, Belgium intended to take part in an international **growth** study on North Sea *Nephrops* in 2006 and/or 2007 (for details, see report of the 'Lisbon Group', pages 5-10). Meanwhile however, MS have been informed by the Commission that tagging studies on *Nephrops* would not be eligible under the DCR and the plans for an international growth study on North Sea *Nephrops* were abandoned.

- ***Pleuronectes platessa* and *Solea solea* in ICES Sub-areas VIIa, VIIId and VIIIfg**

At present, **sex ratios** and **growth** data (age-length and age-weight data) for both plaice and sole are gathered on a yearly basis. This will continue to be the case, since all necessary data are collected as part of the ongoing market and discard sampling programs (see Sections 8.1 and 8.3 for details).

⁽³⁾ The 'Lisbon Group' is a group of *Nephrops* experts who met in conjunction with the 2004 meeting of the ICES Working Group on *Nephrops* Stocks (WGNEPH) in Lisbon, Portugal, to discuss international co-operation on the updates of sexual maturity and growth in *Nephrops*.

As in 2004 and 2005, male and female *sexual maturity* will routinely be investigated for all plaice and sole stocks listed in Table 9.1., as part of the current market sampling programs.

- ***Rajidae* in ICES Sub-areas IV and VII (except VIIId)**

Sex ratios will be calculated on a yearly basis, as part of the routine market sampling programs for rays (see Sections 8.1 and 8.3 for details).

Sexual maturity data for rays in Sub-area IV will be collected during the BTS survey in August (see Section 7.1 for details). Typically, between 100 and 200 rays (mostly *Raja clavata* and *R. montagui*) are caught during this survey. The Sea Fisheries Department has no surveys in Sub-area VII and therefore is not in a position to undertake maturity studies in this area.

Growth of rays can be investigated through ageing or tagging. At present however, there is no generally approved and workable method to determine age for most ray species, and tagging is expensive. Therefore, the time schedule of any future growth studies on rays will depend on the progress that is made in developing a generally accepted technique for age determination.

9.2 EP proposal

Belgium does not apply for an EP under this Module of the DCR.

9.3 Budget

Details on the budget for this Module are given in Appendix 11.

Generally speaking, the budget for biological studies can be split into two parts: (a) the costs for obtaining and analysing the samples, and (b) the costs for working up the data resulting from the analyses. The biological studies that will be undertaken in 2006 under Module I (see above) do not require additional sampling on top of what is already done under Module H (Length and age sampling of landings and discards). This explains why Appendix 11 only has cost estimates for personnel, consumables and the purchase of durable equipment. The costs for obtaining and analysing the samples are included in Appendices 9 (Length and age sampling of landings) and 10 (Length and age sampling of discards).

Table 9.1 - Multi-annual sampling scheme for other biological parameters

Species	Area / Stock	Length at age					Sex ratio					Sexual maturity					Fecundity				
		2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
<i>Nephrops norvegicus</i>	North Sea, FU 5	Not eligible					X	X	X	X	X			X			Not applicable				
<i>Pleuronectes platessa</i>	VIIa	X	X	X	X	X	X	X	X	X	X			X	X	X	Not applicable				
	VIIId	X	X	X	X	X	X	X	X	X			X	X	X	Not applicable					
	VIIIfg	X	X	X	X	X	X	X	X	X			X	X	X	Not applicable					
<i>Rajidae</i>	IV	Not applicable							X	X	X			X	X	X	Not applicable				
	VII except VIIId	Not applicable							X	X	X	Not applicable					Not applicable				
<i>Solea solea</i>	VIIa	X	X	X	X	X	X	X	X	X			X	X	X	Not applicable					
	VIIId	X	X	X	X	X	X	X	X	X			X	X	X	Not applicable					
	VIIIfg	X	X	X	X	X	X	X	X	X			X	X	X	Not applicable					

10 Module J - Economic data by group of vessels

Institute in charge: Sea Fisheries Service

10.1 MP proposal

Economic data by group of vessels are collected through questionnaires that are filled in by the ship owners on a voluntary basis, and then returned to the Sea Fisheries Service. In the past, fleet coverage has varied slightly from year to year, depending on the number of questionnaires returned. In 2004, the response rates were as follows:

- 50 % for the beamers of 12-24 m;
- 63 % for the beamers of 24-40 m; and
- 25 % (i.e. 1 vessel out of 4) for the demersal trawlers.

In 2003, the missing parameters from Annex XVII of the DCR were included in the questionnaire, which now fully complies with the requirements of the DCR.

The data are stored in a database, and can be retrieved according to any level of segmentation or aggregation that might be required.

10.2 EP proposal

Belgium does not apply for an EP under this Module of the DCR.

10.3 Budget

Details on the budget for this Module are given in Appendix 12.

11 Module K - Data concerning the processing industry

Institute in charge: Sea Fisheries Department

11.1 MP proposal

Economic data on the fish processing industry will be collected through questionnaires that will be sent to all medium-sized and large (fish) processing companies in Belgium, and that should be returned to the Sea Fisheries Department for subsequent analysis. For obvious reasons, the proposed data collection system will show a time-lag of at least one year, since the data collected in 2006 at the best will refer to the financial situation of the processing companies in 2005.

With respect to this Module of the DCR, it should be emphasised that Belgium has very few processing companies that are entirely committed to fishery products. Most companies do have different types of processing activities, of which fish and shellfish may be one, but not necessarily the most important one. This will be taken into account when putting together the questionnaires and in the subsequent analysis of the data provided.

11.2 EP proposal

Belgium does not apply for an EP under this Module of the DCR.

11.3 Budget

Details on the budget for this Module are given in Appendix 13.

12 Data storage and management (Articles 9-11)

Institutes in charge: Sea Fisheries Service (landings, effort and economic data) and Sea Fisheries Department (data from market and discard sampling programs, from scientific evaluation surveys, etc.)

12.1 Existing databases

❖ Sea Fisheries Service

The Sea Fisheries Service has extensive databases with landings, effort and economic data on the Belgian sea-going fishing fleet that will be complemented with the information gathered during the 2005 and 2006 NDGPs.

❖ Sea Fisheries Department

The results from the Beam Trawl Survey (see Section 7.1, paragraph on BTS) are currently stored in a central WGBEAM database, held by RIVO on behalf of ICES.

12.2 Development of new databases

❖ Sea Fisheries Department

In April 2003, the Sea Fisheries Department started with the development of a relational database (the so-called Belsamp Database), in co-operation with a sub-contracted software developer.

The Belsamp Database has a modular structure, with (a) separate modules for the quality control, storage, partial treatment and retrieval of fishstats, data from market and discard samplings, survey data, etc., and (b) peripheral modules with vessel registers, taxonomic information on the most important fish and shellfish species, area and stock descriptions (in terms of statistical rectangles), etc.

The database is developed in such a way that it is:

- Error-proof, in the sense that it has all the necessary internal validation routines and redundancy checks to make sure that the quality of the data is guaranteed.
- Flexible, so that it can easily be appended with user-defined new modules (e.g. for new surveys).
- Transferable to portable computers, so that it can be taken to meetings outside the institute.
- Compatible with other applications, in the sense that it is able to produce outputs that can easily be imported into other applications in a Windows environment.
- Easy to maintain, so that it can easily be maintained by the institute's staff, without costly, long-lasting support contracts with third parties.

- Compatible with the Commission's requirements on data communication and data exchange formats.

A copy of the framework contract with the software developer, in Dutch, was provided as an Annex to last year's program proposal.

The completion of the Belsamp database is foreseen for end 2005, beginning of 2006, upon which it will be used as a repository for all historical (2002-2005) and new (from 2006 onwards) NDGP data.

12.3 Budget

Details on the budget for this Module are given in Appendix 14.

13 Co-ordination (Article 6)

Institutes in charge: Sea Fisheries Service and Sea Fisheries Department

13.1 National co-ordination

Until further notice, Dr. Frank Redant will continue to act as interim National Correspondent for the Belgian NDGP. His co-ordinates are:

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Additional technical information on the program proposal and on its budgeting can be obtained from the Department Head of the Sea Fisheries Service (for Modules C, D, E-landings, F and J) and from the Head of the Biology & Aquaculture Section of the Sea Fisheries Department (for Modules E-discards, F, G, H, I and K):

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National co-ordination of the Belgian NDGP will be ensured by regular informal contacts between the above mentioned section heads, and through an annual co-ordination meeting in April-May.

13.2 International co-ordination

International co-ordination and co-operation will be achieved at different levels:

- Through direct contacts with colleagues from other institutes (particularly around the North Sea, the Irish Sea and the Celtic Sea), who are responsible for sea surveys, stock sampling programs and biological updates that are also part of the Belgian NDGP.
- Through the activities of the Regional Co-ordination Meetings for the North Sea (RCM-NS) and the North-East Atlantic (RCM-NEA).
- Through the activities of ICES Working, Study and Planning Groups on data gathering and sea surveys, such as the Working Group on Beam Trawl Surveys (WGBEAM), the Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS), and the Workshops organised by PGCCDBS.
- Through the activities of other ICES Working and Study Groups, in as much as these activities cover issues that are *directly* related to data gathering, biological sampling or sea surveys. Following the Commission's guidelines on the eligibility of costs for meetings however, the costs for attending these Working and Study Groups are *not* included in the budget proposal.
- Through the activities of the STECF Sub-Groups on data gathering, precision levels, databases, etc., such as the Sub-Group on Research Needs (SGRN), etc.

13.3 Budget

Details on the budget for this Module are given in Appendix 15.

To correctly appreciate the cost estimates given in Appendix 15, it should be borne in mind that the costs for the scientific supervision of the different Modules have been included under each Module separately. The only costs that were included in Appendix 15 are the ones related to the activities of international Working, Study and Planning Groups that are considered eligible by the Commission.

14 Acronyms and abbreviations

Ab or Ab5	5 th Abdominal segment (standard measure for <i>Nephrops</i> tails)
BTS	North Sea Beam Trawl Survey
CEFAS	Centre for Environment, Fisheries and Aquaculture Science (England)
CL	Carapace length (standard measure for whole <i>Nephrops</i>)
CLO	Centre for Agricultural Research (Belgium)
CLO-DvZ	Centre for Agricultural Research - Sea Fisheries Department (Belgium)
CPUE	Catch per unit effort
DCR	Data Collection Regulation
DYFS	Demersal Young Fish and Brown Shrimp Survey
EC	European Commission
EP	Extended Program under the requirements of EC Regulation 1639/2001 and its amendments laid down in EC Regulation 1581/2004
FU	Functional Unit (geographical definition of <i>Nephrops</i> stocks)
GT	Gross tonnage
ICES	International Council for the Exploration of the Sea (Denmark)
LOA	Length over all
LPUE	Landings per unit effort
MAGP	Multi-annual Guidance Program
MP	Minimum Program under the requirements of EC Regulation 1639/2001 and its amendments laid down in EC Regulation 1581/2004
MS	EU Member State(s)
NDGP	National Data Gathering Program
PGCCDBS	ICES Planning Group on Commercial Catch, Discards and Biological Sampling
RCM-NEA	Regional Co-ordination Meeting for the North-East Atlantic
RCM-NS	Regional Co-ordination Meeting for the North Sea
RIVO	Nederlands Instituut voor Visserij Onderzoek (Netherlands)
SGRN	STECF Sub-group on Research Needs
TAC	Total allowable catch
WGBEAM	ICES Working Group on Beam Trawl Surveys



**Bilateral Agreement between the UK (CEFAS)
and Belgium (CLO-DvZ) for the Collection of Length and Age Samples
under the Minimum Programme of Regulation 1639/2001**

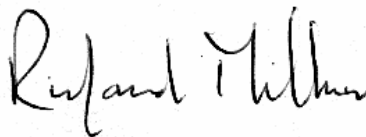
In its report from December 2003, SGRN noted that length and age sampling of landings by foreign vessels could be improved by better task sharing between the countries involved.

In compliance with this, the UK and Belgium have agreed that samples of fish landed by Belgian vessels into the UK and transported for first sale into Belgium will be sampled upon arrival in the Belgian auctions by CLO-DvZ as part of the Belgian National Data Gathering Programme under the requirements of the EC Data Collection Regulation (1639/2001). CLO-DvZ will ensure that the estimated additional landings are included in their target when calculating sampling levels and when applying for funds to cover this additional sampling requirement.

At the same time, the UK agrees to carry out additional sampling of UK vessels landing into the UK in order to compensate for the small landings by UK vessels into Belgium which are not sampled by CLO-DvZ.

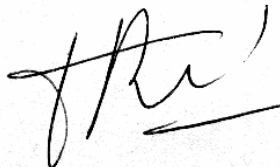
This agreement confirms the arrangements in place for 2004, and agrees that it should be continued in 2005 and 2006.

Signed for CEFAS:



Date: 29.04.2004

Signed for CLO-DvZ:



Date: 10.05.2004