

**Ministry of the Flemish Community**



Sea Fisheries Service (Oostende, Belgium)

ILVO - Fisheries (Oostende, Belgium)

Research Institute for Nature and Forest (Hoeilaart-Groenendaal, Belgium)

# **National Data Gathering Programme**

under EC Regulation 1639/2001  
amended by EC Regulation 1581/2004

## **Belgium**

### **2008 - Programme proposal**

Oostende - May 2007

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**Provided in separate documents:**

Standard tables	Standard tables 1.1 to 13.1
Appendices 1-16	Cost estimates for Modules C to K, Databases and Co-ordination separately (Commission only)
Appendix 17	Cost estimates for all Modules combined (Commission only)

# 1 Introduction

## 1.1 General framework

The present document contains the National Data Gathering Programme (NDGP) proposal for Belgium for the year 2008, in fulfilment of the requirements of EC Regulations No. 1639/2001 and No. 1581/2004.

### ❖ Structure of the proposal

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):

- 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)
- National and international co-ordination (Article 6 of the DCR)

Each Module section has a budget appendix (Appendices 1-17) <sup>(1)</sup> with details on the time allocation (in person-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. Synoptic tables with the time allocation and cost estimates for all Modules combined are given in Appendix 18.

As the requirements of the DCR are expected to change from 2009 onwards, no attempts were made to make cost projections for 2009 and beyond.

### ❖ Main differences between 2008 and 2007 NP proposals

Overall, the Belgian NP proposal for 2007 scored well in the Evaluators' Report, but afterwards, there have been some changes in both its contents and budget, amongst others with regards to the proposed pilot study on recreational fisheries for eel (under Module E) and the proposed surveys for eel (under Module G), which were not accepted by the Commission.

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

Despite these changes, there was no reason to change the **overall approach of the NDGP**, actually meaning that the core of the present proposal is very much similar to the one submitted last year.

In an attempt to further improve the NDGP, special attention was paid to the comments and suggestions made by the External Evaluators, the STECF Sub-Group on Research Needs (SGRN), the Commission, the Regional Co-ordination Meetings (RCMs) and the ICES Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS). 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      Exploratory extension of at-sea sampling (in a limited number of fisheries) to all commercial and non-commercial fish, in anticipation of the upcoming inclusion of ecosystem parameters in the DCR.
- Module H      Implementation of a quality assurance system for age readings.

As last year, it was decided to include a dedicated sampling programme for eel (*Anguilla anguilla*) – more specifically on glass eel in the coastal waters – in anticipation of the upcoming management plan for the species. This has resulted in the following addition to the NP proposal (that is, in addition to the 2007 NP that was eventually agreed upon by the Commission, not the initial proposal that was submitted in June 2006):

- Module G      Scientific evaluation survey on glass eel entering the Yser River, on the south-west coast of Flanders.

Details on the proposed extensions are given under the relevant Module sections.

#### ❖ **Minimum and Extended Programme**

Except for Module F (Data concerning the catches per unit of effort), no attempts were made to submit Extended Programme (EP) proposals for the year 2008.

#### ❖ **Statistical aspects of data collection**

Most Modules of the DCR have provisions with regards to the precision levels that should be targeted / reached when collecting fishery-related and biological data. Establishing whether the target precision levels were met, requires elaborate statistical analysis of the data. This may be done either by a yearly repetition of *ad hoc* precision calculations, or by means of automated quality evaluation procedures that are hooked up to the national databases. For countries with limited budgetary resources and a wide variety of data being collected (such as Belgium) either approach means a considerable financial burden.

The issue of data exchange between data collectors (the MS and their national fisheries institutes) and data users (the Commission, RFOs such as ICES, GFCM, etc.) and of data quality assurance, was extensively discussed during the 2005 and 2006 meetings of the RCMs and the 2006 meeting of PGCCDBS, amongst others in view of the upcoming move from a stock-based to a fishery/métier-based data collection system and the need for integrated approaches consisting of regional data management systems and commonly agreed evaluation tools.

From these discussions, we understand that:

- There is a general trend towards abandoning the current approach of compulsory precision levels for individual, national datasets, and to replace this by a system of target precision levels for regionally aggregated datasets. This makes sense, since the end-users (such as assessment working groups) are primarily interested in the quality of the aggregated datasets and not – or not necessarily – of their country-wise components.
- The move towards a fishery/métier-based data collection system for the collection of effort, landings and discard data, and for length and age sampling, will require major modifications to the existing data collection programmes, but it will also facilitate the merger of national datasets into regionally aggregated datasets at the fishery/metier-level. This, in turn, should facilitate the quality evaluation of the aggregated data.
- RCM North Sea & East Arctic (which is of particular relevance to Belgium) has taken the initiative to explore the potential of FishFrame as a regional data warehouse for the North Sea area, and as a data exchange platform between data collectors and data users. FishFrame also has in-built analytical tools for the quality evaluation of both raw and aggregated data, and if successfully implemented in the North Sea area, may become a powerful alternative to the current, poorly structured system of largely national raising procedures, and a common platform for the quality analysis and assurance of regionally aggregated data.
- In addition, there also is a European project, COST, whose major aim it is to develop a common toolbox for the quality evaluation of raw and aggregated biological data. Essential to COST is that the toolbox (i) will be developed in an open source environment (R) and hence, that it can evolve into a 'living' system, (ii) will consist of an internationally agreed set of statistical tools, meaning that all users will perform their quality checks with the same methodology, and (iii) can be hooked up to any national or regional database.

In view of the above, and pending the implementation of the FishFrame and COST systems on a wider, regional scale, Belgium has decided ***to stop developing its own quality evaluation system*** (including the development of *ad hoc* solutions for the yearly calculation of precision levels) ***and to set apart its limited financial resources for data collection*** (and its co-ordination) ***in itself***. In the mean time – and where practically feasible – Belgium agrees to maintain its biological sampling programmes at least at the level of the preceding years, to make sure that data quality does not fall. In line with this, it was also decided (already in 2006) not to employ a new statistician in replacement of the one who left ILVO-Fisheries mid-2005, but to use the money to employ an extra sea-going observer, in order to be able to extend at-sea sampling to all relevant fleets <sup>(2)</sup>.

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<sup>(2)</sup> A proposal along these lines (including a request for re-allocation of part of the 2007 NDGP-budget from statistical analysis to discard sampling) was submitted to the Commission in May 2006. The proposal and the associated budget re-allocation were accepted by the Commission (cf. registered e-mail ref. FISH REG/A4(2006)D/6421 dd. 23.05.2006). The extra sea-going observer was employed in February 2007.

## ❖ **Cost of the Belgian NDGP**

In the Evaluators' comments on previous programme proposals, it was hinted that the Belgian NDGP is relatively expensive when compared to the total volume of the landings, but not when compared to their gross value. There are several fishery-related and economic reasons to this. Belgium has no industrial and 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.

## 1.2 **General description of the fisheries**

This section contains a brief description of the Belgian sea fisheries and its most important features. The intention of this summary 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 programme proposal. A synoptic overview of the Belgian sea fisheries by area is given in Table 1.1.

## ❖ **Fleet size and fleet segments**

At the start of 2007, the Belgian sea-going fishing fleet comprised 106 registered units (see text table below).

<b>Composition of the Belgian sea-going fishing fleet on January 1st, 2007</b>						
<b>Operational fleet segment</b>	<b>Hp class</b>					<b>Total</b>
	<b>&lt; 300</b>	<b>301-600</b>	<b>601-900</b>	<b>901-1200</b>	<b>&gt; 1200</b>	
Beam trawlers	43	1	7	19	24	<b>94</b>
Otter trawlers	--	--	2	--	--	<b>2</b>
Shrimp trawlers	7	--	--	--	--	<b>7</b>
Static gear	--	2	1	--	--	<b>3</b>
<b>Total</b>	<b>50</b>	<b>3</b>	<b>10</b>	<b>19</b>	<b>24</b>	<b>106</b>

Broadly speaking, the Belgian sea-going fishing fleet 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 (VIIIfg) and the inner part of the Bay of Biscay (VIIIab).



- Small beamers with engine powers  $\leq 300$  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*), depending on catch opportunities and market prices.
- A small number of otter trawlers in the strict sense of the word, targeting roundfish (primarily cod, haddock and whiting) and flatfish during part of the year and *Nephrops* during the main *Nephrops* season (3<sup>rd</sup> and beginning of 4<sup>th</sup> quarter).
- A small number of shrimp trawlers, targeting brown shrimp in the Belgian and Dutch coastal waters. Sometimes, these vessels land their catches directly into the Netherlands.
- A small number of catamarans and other vessel types, using different kinds of static gear.

In the course of 2006, there have been several, major structural changes in the Belgian fishing fleet, all of which were driven by the worsening economic situation of the fishing sector. High fuel prices on the one hand, and tightening quota on the other, pushed many ship owners to the verge of bankruptcy. The gravity of the situation inspired the Flemish Government (who is responsible over fisheries management in Belgium) to organise a major decommissioning round, aiming at the removal of around 10 % of the fleet's overall capacity in terms of engine power and gross tonnage, without however losing any of their quota opportunities <sup>(3)</sup>. The undertaking was very successful and resulted in the decommissioning of three smaller and six larger vessels, equivalent to  $\approx 2200$  GRT on a total of  $\approx 22600$ . The economic situation also forced fishermen to look for less energy consuming fishing techniques, and several of the beam trawlers are now using outrigger gear (one or more otter trawls that are fished from the outrigger booms) and other energy saving devices during at least part of the year.

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 for brown shrimp is strongly weather dependent and is usually restricted to the summer months.

#### ❖ **Areas fished**

Landings by the Belgian sea-going fishing fleet are primarily from the North Sea (42.3 % of the total landings in 2006), followed by the English Channel (30.2 %), the Celtic Sea (14.5 %), the Irish Sea (8.5 %) and the Bay of Biscay (2.6 %). Landings from other areas (South of Ireland, West of Scotland, etc.) are small to negligible (see table on page 10).

#### ❖ **Species landed**

Belgium has no industrial and no pelagic fisheries. All fish and shellfish landed by Belgian vessels are for human consumption. The consequence being, that the quantities landed are relatively small (20.4 10<sup>3</sup> t in 2006 – a roughly 6 % decrease over the 2005 figure of

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<sup>(3)</sup> As a result, total landings by the Belgian fishing fleet are not expected to decrease at the same pace as the overall decrease in fishing capacity.

21.6 10<sup>3</sup> t) compared to the size of the fleet, but also that their value per kg is relatively high (approx. 4.5 Euro/kg – average for 2006, sales in Belgian auctions only).

In 2006, the top 10 of the most important species landed (by weight) consisted of plaice (24.3 % of the total landings), sole (18.8 %), rays (8.7 %), cod (6.5 %), lemon sole (4.3 %), brown shrimp, cuttlefish, dab, tub gurnard and scallop.

#### ❖ **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 (also see Section 5.2, para. The problem of 'mixed' landings).

#### ❖ **Landings by Belgian vessels in foreign harbours**

Roughly one fifth of all fish and shellfish taken by Belgian vessels in the southern and central North Sea are 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 or in neighbouring areas 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).

Belgian landings by species and area in 2006 - All landing ports combined								
Figures in t landed weight, rounded to the nearest 5 t								
Species or species group	ICES Sub-area or Division							Total
	IV	VIIde	VIIa	VIIfg	VIIhjk	VIIIab	Other	
<i>Anarhichas lupus</i>	50	--	--	--	--	--	5	55
<i>Aspitrigla cuculus</i>	30	245	10	25	--	< 5	--	315
<i>Conger conger</i>	< 5	30	5	20	--	< 5	--	60
<i>Dicentrarchus labrax</i>	45	15	< 5	20	--	--	--	75
<i>Eutrigla gurnardus</i>	10	10	--	5	--	< 5	--	25
<i>Gadus morhua</i>	1040	75	50	80	< 5	--	85	1335
<i>Hippoglossus hippoglossus</i>	< 5	--	--	--	--	--	--	< 5
<i>Lepidorhombus spp.</i>	< 5	< 5	< 5	85	< 5	< 5	--	100
<i>Limanda limanda</i>	345	155	30	35	--	--	10	580
<i>Lophius spp.</i>	40	80	25	200	< 5	50	5	400
<i>Melanogrammus aeglefinus</i>	80	< 5	20	85	--	--	10	195
<i>Merlangius merlangus</i>	80	65	5	105	--	< 5	--	255
<i>Merluccius merluccius</i>	40	< 5	< 5	15	--	10	5	70
<i>Microstomus kitt</i>	490	105	15	240	< 5	--	40	885
<i>Molva molva</i>	20	10	< 5	15	--	--	< 5	50
<i>Mullus surmuletus</i>	5	25	--	15	--	< 5	--	45
<i>Mustelus mustelus</i>	5	5	--	< 5	--	--	--	15
<i>Platichthys flesus</i>	160	45	15	< 5	--	--	--	215
<i>Pleuronectes platessa</i>	3275	1030	325	165	20	< 5	145	4960
<i>Pollachius pollachius</i>	15	50	5	15	--	--	< 5	90
<i>Pollachius virens</i>	10	--	--	< 5	--	--	< 5	15
<i>Psetta maxima</i>	140	95	35	80	--	5	5	355
<i>Rajidae</i>	350	120	590	700	< 5	15	5	1780
<i>Scophthalmus rhombus</i>	100	170	30	65	--	5	< 5	370
<i>Scyliorhinus canicula</i>	100	190	80	120	--	15	--	500
<i>Sebastes spp.</i>	< 5	--	--	--	--	--	--	< 5
<i>Solea solea</i>	970	1510	395	550	35	375	--	3835
<i>Squalus acanthias</i>	< 5	--	5	5	--	--	--	15
<i>Trigla lucerna</i>	70	410	50	30	--	5	--	565
<i>Trisopterus luscus</i>	25	335	5	25	--	10	--	400
Other demersal species	30	190	10	85	< 5	15	--	330
<i>Clupea harengus</i>	< 5	--	--	--	--	--	--	< 5
<i>Scomber scombrus</i>	5	--	--	--	--	--	--	5
<i>Sprattus sprattus</i>	< 5	--	--	--	--	--	--	< 5
<i>Trachurus trachurus</i>	< 5	--	--	--	--	--	--	< 5
Other pelagic species	--	--	--	--	--	--	--	0
<i>Cancer pagurus</i>	45	25	5	30	--	5	--	110
<i>Crangon crangon</i>	710	--	--	--	--	--	--	710
<i>Homarus gammarus</i>	< 5	< 5	--	--	--	--	--	< 5
<i>Nephrops norvegicus</i>	200	--	< 5	5	--	5	--	215
<i>Buccinum undatum</i>	55	50	5	5	--	--	--	120
<i>Loligo spp.</i>	25	45	< 5	10	--	--	< 5	80
<i>Octopus spp.</i>	< 5	< 5	< 5	20	--	5	--	35
<i>Pecten maximus</i>	5	450	10	75	< 5	< 5	--	540
<i>Sepia officinalis</i>	55	645	--	10	< 5	--	--	710
Other shellfish species	--	< 5	--	< 5	--	--	--	< 5
<b>Total</b>	<b>8645</b>	<b>6175</b>	<b>1735</b>	<b>2955</b>	<b>70</b>	<b>530</b>	<b>325</b>	<b>20435</b>
<b>% of Grand total</b>	<b>42.5</b>	<b>30.0</b>	<b>8.5</b>	<b>14.5</b>	<b>&lt; 1</b>	<b>2.5</b>	<b>1.5</b>	<b>--</b>

## **2 Participating institutes**

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### **2.2 Participating institutes**

#### **❖ Ministry of the Flemish Community - Policy Domain Agriculture & Fisheries**

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### 3 Module C - Fishing capacities

#### 3.1 MP - Planned sampling

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 LOA
Beam trawlers	12-24 m
	24-40 m
Demersal trawlers (a)	12-40 m
Static gear (b)	12-24 m
(a) There are < 10 vessels for the two LOA segments (12-24 and 24-40 m) combined	
(b) There are < 10 vessels in this fleet segment	

With respect to this, it is worth emphasising that Belgium has no registered fishing vessels of < 10 m LOA (also see Section 1.2, para. Fleet size and fleet segments).

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 Appendix III of the DCR.

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

#### 3.2 MP - Derogations and non-conformities

None.

#### 3.3 EP - Planned sampling

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

#### 3.4 EP - Non-conformities

None.

#### 3.5 Budget

There are no additional costs (i.e. on top of the costs for keeping the EU Fleet Register and which are not considered eligible under the DCR – cf. letter ref. D-03619 dd. 20.03.2006

of the Commission to the Belgian National Correspondent on the eligibility of costs for the execution of the 2006 NDGP) involved in collecting the data described in the above sections (also see Appendix 1).

## 4 Module D - Fishing effort

### 4.1 MP - Planned sampling

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:** Effort data (hours fishing, kW and GT) are collected by fishing voyage, as part of the routine effort, landings and revenue data collection system (for details, see Section 5.1, para. Landings and effort data collection system).
- **Specific fishing effort** is derived from the voyage-wise landings and effort data. The threshold levels, as defined in Appendix VI of the DCR, are calculated from the relative proportions (by weight) of the key species in the total landings of all individual fishing trips. Species-specific effort is readily available for all species in Appendix VI of the DCR. 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 reported by fleet segment, gear type and ICES Sub-area, as requested by the DCR (see text table below), but can equally be provided by any other type of spatial or temporal aggregation.

Type of fishing technique	Disaggregation
Beam trawlers	North Sea $\leq$ 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 MP - Derogations and non-conformities

None.

### 4.3 EP - Planned sampling

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

#### **4.4 EP - Non-conformities**

None.

#### **4.5 Budget**

Details on the budget for this Module are given in Appendix 2. With respect to these, it is worth stressing that *none* of the costs under this section of the programme proposal relate to the processing of logbook data or of catch and effort data obtained through fisheries inspectors (also see Section 5.11).



## 5 Module E - Catches and landings

### 5.1 MP - Landings - Planned sampling

#### ❖ Data collected

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

Species for which species-wise landings and revenue data will be collected in 2008	
<b>Demersal fish species</b>	<i>Rajidae</i> (a)
<i>Anarhichas lupus</i>	<i>Scophthalmus rhombus</i>
<i>Anguilla anguilla</i>	<i>Scylliorhinus canicula</i>
<i>Aspitrigla cuculus</i>	<i>Sebastes spp.</i>
<i>Conger conger</i>	<i>Solea solea</i>
<i>Dicentrarchus labrax</i>	<i>Squalus acanthias</i>
<i>Eutrigla gurnardus</i>	<i>Trigla lucerna</i>
<i>Gadus morhua</i>	<i>Trisopterus luscus</i>
<i>Hippoglossus hippoglossus</i>	<b>Pelagic fish species</b>
<i>Lepidorhombus spp.</i>	<i>Clupea harengus</i>
<i>Limanda limanda</i>	<i>Scomber scombrus</i>
<i>Lophius spp.</i> (a)	<i>Sprattus sprattus</i>
<i>Melanogrammus aeglefinus</i>	<i>Trachurus trachurus</i>
<i>Merlangius merlangus</i>	<b>Crustaceans</b>
<i>Merluccius merluccius</i>	<i>Cancer pagurus</i>
<i>Microstomus kitt</i>	<i>Crangon crangon</i>
<i>Molva molva</i>	<i>Homarus gammarus</i>
<i>Mullus surmuletus</i>	<i>Nephrops norvegicus</i>
<i>Mustelus mustelus</i>	<b>Molluscs</b>
<i>Platichthys flesus</i>	<i>Buccinum undatum</i>
<i>Pleuronectes platessa</i>	<i>Loligo spp.</i>
<i>Pollachius pollachius</i>	<i>Octopus spp.</i>
<i>Pollachius virens</i>	<i>Pecten maximus</i>
<i>Psetta maxima</i>	<i>Sepia officinalis</i>
(a) Species segregation performed as part of the market sampling programmes	

#### ❖ Landings and effort data collection system

In Belgium, effort and landings data are collected in two ways: from logbooks and from sales notes. The logbooks contain extensive information on the retained catches and their species composition by haul (albeit with certain restrictions – see bullet point 2 underneath), but they do not contain information on the size composition (in terms of market categories) of the retained catches. The sales notes on the other hand, contain information

on the quantities auctioned by market category for all species landed (and not just for the species recorded in the logbooks – again see bullet point 2), but they do not provide information on the exact origin (in terms of statistical rectangles) of the landings. The two systems are equally important to the Belgian data collection system, they are complementary, and the combination of the two has clear advantages:

- (1) The two approaches yield independent estimates of the retained and landed portions of the catches, and can thus be used for quality control and validation purposes. This helps improving the reliability of the landings figures.
- (2) In the Logbook Regulation, it is stipulated that "*only catches of an amount greater than 50 kg of live-weight equivalent of any species retained on board must be recorded in the logbook*" (Article 2.4.2. of Annex V of Commission Regulation (EEC) No. 2807/83), the consequence being that small by-catches of fish and shellfish often remain unrecorded in the logbooks. These quantities however, are picked up in the sales notes, which helps improving the species coverage and hence the comprehensiveness of the landings statistics.
- (3) As already mentioned in Section 1.2 (see para. Landings by Belgian vessels in foreign harbours), roughly one fifth of all fish and shellfish taken by Belgian vessels in the southern and central North Sea are auctioned abroad, mostly in the Netherlands. Also, vessels making consecutive fishing trips in distant waters before returning to their homeport in Belgium, may sell part of their catches during their stop-overs in a foreign harbour. Data on the sales abroad are collected by local authorities from sales notes and submitted to the Sea Fisheries Service for incorporation in the Belgian national fishstats database. This requires additional quality checks and codification, to ensure that the imported data are compatible with the recipient database.
- (4) Last but not least, the landings data by market category are of critical importance to the biological data collection programme on the landings (Module H), which heavily relies on stratified sampling by market category (for details, see Section 8.1).

The dual approach (logbooks and sales notes) is advocated by the ICES Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS) as a means to validate the different sources of information on catches and landings. In its 2007 report <sup>(4)</sup>, the PGCCDBS states that "*In order to establish quality indicators that can be used to evaluate / estimate the accuracy of the fishery statistics and biological information about the catches, it is necessary to make use of different sources of information and analyse the consistency between them with regards to the relevant parameters. Such a quality control thus needs to check different sources for the same information, e.g. logbooks compared with sale slips from the same vessel and/or trip*". This is exactly what has been done for several years now in Belgium.

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<sup>(4)</sup> ICES (2007): Report of the Planning Group on Commercial Catch, Discards and Biological Sampling, ICES Advisory Committee on Fisheries Management, ICES CM 2007/ACFM:09, page 68.

### ❖ **Conversion factors**

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.

### ❖ **International data exchange**

International co-operation with regards to landings data is realised through the exchange of data between relevant MS for (i) Belgian flag vessels landing and selling their catches abroad, and (ii) other flag vessels landing and selling their catches in Belgium. There are no Belgian landings outside the EU.

### ❖ **Data management**

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.).

## 5.2 **MP - Landings - Derogations and non-conformities**

### ❖ **The problem of the 'restricted' list**

In the past, the idea of having a 'restricted' list of species for which landings data are recorded (see text table on page 10), has been labelled as a 'non-conformity' by the External Evaluators. There is, however, a 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 in quantities of any importance*. 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 (for details, see Section 1.2, para. Areas fished and para. Species landed):

- 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 NP proposals (the issue was not raised by the External Evaluators in relation to the 2006 and 2007 NP proposals), SGRN stated that it saw no contradiction between the requirements of the DCR and the use of a restricted list, "*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 (see e.g. SEC (2004) 179, page 16, and SEC (2005) 255, page 26).

## ❖ **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*" (SEC (2003) 101, page 11).

In the Belgian fish and shellfish landings, a distinction must be made between two categories of mixed landings:

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

For *Lophius* and the *Rajidae*, partitioning of the landings by species is done as part of the routine length and age sampling programmes (for details, see Section 8.1).

The landings of *Lepidorhombus spp.* are too small ( $\approx 160$  t live weight annually for all areas combined) to justify dedicated sampling for species segregation purposes.

- Mixed landings and sales of fish and shellfish 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 kilograms 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 collection, this category of mixed landings is recorded as 'Other demersals', 'Other pelagics', 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 2 % of the total Belgian landings (see table on page 10). In view of this, the omission of the quantities 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.

### **5.3 EP - Landings - Planned sampling**

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

### **5.4 EP - Landings - Non-conformities**

None.

### **5.5 MP & EP - Discards - Planned sampling**

Overviews of the Belgian sea fisheries, their known or presumed discard rates, and the discard sampling planned in 2008, are given in Tables 5.2 and 5.3.

In the first years of the DCR (2003-2006), discard sampling was largely focused on the flatfish directed beam trawl fisheries in the Irish Sea (ICES Sub-area VIIa), the eastern Channel (VIIId), the Celtic Sea (VIIIfg) and the inner Bay of Biscay (VIIlab), and on the

*Nephrops* directed fishery in the southern North Sea (*Nephrops* FU 5). Sampling in the western Channel (VIIe) and the North Sea (mostly IVb and IVc) beam trawl fisheries was done on an opportunistic basis, each time a sea-going observer trip in an adjacent area was extended into one of these areas by an *ad hoc* decision of the skipper.

In 2007, several changes were made to the at-sea sampling programmes:

- Discard sampling was discontinued on the beam trawl fishery in VIIIab (see 2007 NP proposal, Section 5.6, for justifications) and on the *Nephrops* fishery in FU 5 (see 2006 Technical Report, Section 7.9, for justifications).
- Discard sampling was intensified on the beam trawl fishery in the North Sea, in an attempt to meet SGRN's repeated request to set up a dedicated discard sampling programme on the Belgian beam trawl fishery in the North Sea (see reports of the December 2004, December 2005 and December 2006 meetings of STECF-SGRN).

The Belgian discard sampling programmes are used to estimate both the quantities discarded (as required under Module E of the DCR) and their length and age compositions (as required under Module H). Details on the set-up and the methodology of the at-sea sampling programmes are given under Module H (see Section 8.5). So far, the at-sea sampling programmes have covered all species listed in Appendix XII and XV of the DCR, and this will continue to be the case in 2008.

## **5.6 MP & EP - Discards - Derogations and non-conformities**

### **❖ Fisheries for which no discard sampling is envisaged**

#### ***Whitefish directed bottom trawl fisheries - All areas***

Belgium has several whitefish directed bottom trawl fisheries (amongst others in the North Sea and the English Channel) all of which however are of marginal importance (in terms of number of vessels involved and days fished – see Table 5.2 for details) compared to the bottom trawl fisheries by other EU Member States, such as France, Ireland and the UK, in the same areas.

The cost for setting up discard sampling programmes on the Belgian whitefish fisheries would be disproportionate compared to the added value to the international data collection system and therefore, Belgium requests derogation for discard sampling on all its whitefish directed bottom trawl fisheries.

#### ***Nephrops fishery - ICES Sub-area IVb, Nephrops FU 33***

The *Nephrops* directed fishery in FU 33 (eastern North Sea) is a relatively recent activity to the Belgian fleet. For many years, landings from the area have been < 20 t live weight of *Nephrops* annually but in 2006, they shot up to just over 90 t. Compared to the total international landings from this stock however, the quantities taken by the Belgian fleet are small (around 10 %) and therefore, Belgium requests derogation for discard sampling on this fishery. Moreover, over 80 % of the vessels involved in this fishery land their catches directly into the Netherlands and thus are hardly accessible to Belgian sampling parties.

### ***Brown shrimp fisheries - ICES Sub-area IVc (Southern North Sea)***

For the time being, Belgium does not envisage to set up a discard sampling programme for its brown shrimp (*Crangon crangon*) fishery. In the past, this fishery used to be concentrated in the Belgian and the southernmost part of the Dutch coastal waters, but in recent years, it has spread into more northern waters, such as the German Bight and off the Danish North Sea coast. First sale landings from the latter are mostly made into the Netherlands.

Extensive studies on the discards in the European brown shrimp fisheries, carried out in the mid-1990s as part of the EU projects RESCUE and ECODISC, have shown that:

- Discards levels vary widely between areas, seasons, voyages and hauls.
- The finfish discards in the Belgian shrimp fishery primarily consist of 0 and 1 year old whiting, plaice, dab and sole. The discards of 2 year old fish and of juvenile cod (all ages) are marginal.
- Overall, the discards by the Belgian shrimper fleet represent less than 1.0 % of the total discards of 0 year old fish and less than 2.5 % of the total discards of 1 year old fish by the European brown shrimp fisheries (i.e. for all relevant North Sea countries combined).

In view of the above, it can be argued that setting up a discard sampling programme for the Belgian brown shrimp fishery would:

- Be very laborious and time-consuming, since it would require very large numbers of observer trips in order to adequately cope with the different sources of variability.
- Add little to the improvement of the stock assessments of the fish species concerned (primarily plaice and sole), since most fish discarded by the shrimp trawlers belong to age classes that are below the age at first recruitment.
- Give a highly incomplete picture of the impact of the shrimp fisheries on the round- and flatfish stocks in the North Sea, unless the Belgian data are complemented by similar data sets on the discards in the Danish, Dutch, German and UK shrimp fisheries.

The usefulness of discard sampling programmes on the brown shrimp fisheries was also discussed during the RCM North Sea in Bergen (September 2005). At this meeting, it was suggested that the UK (the only MS proposing a discard sampling programme on its brown shrimp fishery for 2006) should be allowed to re-allocate its discard sampling effort from its brown shrimp fishery to fisheries with a higher priority in terms of data needs, ***until agreement is reached on a comprehensive discard sampling programme for all brown shrimp fisheries around the North Sea***. Unfortunately however, this recommendation was omitted from the RCM report. A similar standpoint was taken by the RCM a year later (October 2006) with regards to the German plans to unilaterally set up discard sampling on their brown shrimp fishery in the south-eastern North Sea.

In light of the above, and stressing the fact that a discard sampling programme on the Belgian brown shrimp fishery would have very little added value when performed in isolation, Belgium requests derogation for discard sampling on its brown shrimp fishery.

- ❖ **Fisheries for which discard sampling was discontinued in 2007 and will not be resumed in 2008**

#### ***Beam trawl fishery - ICES Sub-area VIIIab (Inner Bay of Biscay)***

Up to 2006, Belgium had a regular at-sea sampling programme on its flatfish directed beam trawl fishery in the inner Bay of Biscay (ICES Sub-areas VIIIa and VIIIb). The programme consisted of 2-3 sea-going observer trips annually, during the main season of the fishery (2<sup>nd</sup> and 3<sup>rd</sup> quarter).

However, in view of (i) the relatively minor importance of this fishery (the Bay of Biscay beam trawl fishery accounts for only 2-3 % of the total Belgian fish and shellfish landings, and for < 10 % of the total international flatfish landings from the area), and (ii) the relatively low discard levels in this fishery (see 2007 NP proposal, Annex 1), it was decided to discontinue the discard sampling programme in question (that is, from January 2007 onwards) and to re-allocate the sampling effort to fisheries and areas where the need for data is highest (viz. the flatfish directed beam trawl fisheries in ICES Sub-areas IV, VIIa, VIId and VIIfg).

In 2007, there will be no discard sampling in the Bay of Biscay beam trawl fishery, and it is not the intention to resume the programme in 2008.

#### ***Nephrops fishery - ICES Sub-area IVbc, Nephrops FU 5***

Until 2005, Belgium had a regular discard sampling programme on its *Nephrops* fishery in the southern North Sea (*Nephrops* FU 5), with discard samples being provided on a monthly basis by a contracted fishing vessel (samples taken by the ship's crew, but analysed by technicians of ILVO-Fisheries). In September 2005 however, the vessel went bankrupt and in the absence of a readily available alternative, discard sampling in the Belgian *Nephrops* fishery was forced to an end.

With the disappearance of the only full-time *Nephrops* trawler left, the Belgian *Nephrops* landings from FU 5 dropped well below the 100 t threshold in 2006 and to less than 10 % of the total international *Nephrops* landings from this stock. Therefore, it was decided to completely stop all *Nephrops*-related sampling activities (including discards) from 2007 onwards.

In 2006 and 2007, there has been / will be no discard sampling in the *Nephrops* fishery in FU 5, and it is not the intention to resume the programme in 2008.

### **5.7 MP - Recreational - Planned sampling**

- ❖ **Recreational fisheries for salmon and bluefin tuna**

Belgium has no recreational fisheries for salmon and bluefin tuna.

- ❖ **Recreational fisheries for cod, *Gadus morhua***

In 2006, a pilot study was performed on the recreational fisheries for cod in the Belgian coastal waters. The pilot study report (*Resultaten van een pilootstudie over de recreatieve*

*visserij op kabeljauw in de Belgische wateren - Results of a pilot study on the recreational cod fisheries in the waters under Belgian jurisdiction*) was transmitted to the Commission in February 2007. Pending SGRN's advice on the desirability of a follow-up (advice expected early July 2007), no sampling activities on the recreational fisheries for cod are foreseen so far for the year 2008.

#### **5.8 MP - Recreational - Derogations and non-conformities**

None.

#### **5.9 EP - Recreational - Planned sampling**

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

#### **5.10 EP - Recreational - Non-conformities**

None.

#### **5.11 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 3, it should be stressed that *no costs are being claimed for the collection and the pre-processing of logbook data (nor for control and inspection, for that matter)* and that all budgeted costs relate to (i) the collection, quality control and pre-processing of sales notes data, (ii) the cross-checks between the logbook and the sales notes information for quality assurance and validation purposes, and (iii) the incorporation of foreign landings data in the national fishstats database.

With respect to Appendix 4, it should be noticed that *all costs for the collection of discard data have been included in Appendix 11* (Length and age composition of discards). Any attempt to partition labour time and working costs between the two types of activities involved (viz. estimation of the quantities discarded on the one hand and sampling for length and age on the other) 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 of the NP proposal and Appendix 11 in the budget proposal).



## **6 Module F - Catches per unit of effort**

### **6.1 MP - Planned sampling**

Following STECF's guidelines (16<sup>th</sup> 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 (Table 6.1):

- *Crangon crangon* (brown shrimp) in the Belgian coastal waters (ICES Sub-area IVc).
- *Nephrops norvegicus* in FU 5 (ICES Sub-area IVbc). However, in view of the ongoing decline in the number of vessels that take part in the Belgian *Nephrops* directed fishery, it is unlikely that this data series will be used any further for stock evaluation purposes.
- *Pleuronectes platessa* (plaice) in ICES Sub-area VIId.
- *Solea solea* (sole) in ICES Sub-areas VIIa, VIId and VIIfg.

### **6.2 MP - Derogations and non-conformities**

None.

### **6.3 EP - Planned sampling**

The stocks for which CPUE data will be collected under the EP are (Table 6.1):

- *Pleuronectes platessa* (plaice) in ICES Sub-areas IV, VIIa and VIIfg.
- *Solea solea* (sole) in ICES Sub-areas IV and VIIIab.

### **6.4 EP - Non-conformities**

None.

### **6.5 Budget**

Details on the budget for this Module are given in Appendix 6. It is worth mentioning that the basic data to calculate the CPUEs for all stocks listed in the above sections are and will continue to be routinely collected at no extra cost, as part of the existing effort and landings recording system (Modules D and E of the DCR).

## 7 Module G - Scientific evaluation surveys

### 7.1 MP - Planned Priority 1 surveys

Belgium is expected to take part in two Priority 1 surveys, viz. the Demersal Young Fish Survey (DYFS) and the North Sea Beam Trawl Survey (BTS). In addition, Belgium is putting in a proposal for an annual Glass Eel Recruitment Survey (GERS).

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

As part of the international Demersal Young Fish (and Brown Shrimp) Survey, an annual autumn sampling survey will be carried out in the Belgian coastal waters, to collect data on the abundance of juvenile flatfish (primarily plaice, *Pleuronectes platessa*, dab, *Limanda limanda*, and sole, *Solea solea*) 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 (Table 7.1 and 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 ILVO-Fisheries, but will soon be entered in the sea surveys module of the Belsamp database (the main national depository for NDGP data – also see Section 12.2).

#### ❖ North Sea Beam Trawl Survey (BTS)

In August 2007, the adult flatfish stocks (primarily plaice and sole) in the south-western part of the North Sea will be sampled with the RV 'Belgica' (LOA 50 m), as part of the annual international North Sea Beam Trawl Survey. Samples will be taken on about 60 fixed stations in BTS Areas 2, 3 and 4 (Table 7.1 and Figure 7.2). The position of the sampling stations and the methodology used to collect and analyse the samples are the same as in previous surveys.

#### *Methodology*

All BTS stations are 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 10 fish per cm class per BTS sub-area, to establish species- and area-specific age-length keys (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 are stored in Excel spreadsheets at ILVO-Fisheries, but will soon be entered in the sea surveys module of the Belsamp Database (also see Section 12.2).

#### ❖ **Glass Eel Recruitment Survey (GERS)**

In view of the international concern about the declining European eel populations, *Anguilla anguilla*, and the need for scientific evidence permitting the evaluation of the trends in the eel stock, monitoring of the recruitment of juvenile eel is an absolute necessity. Monitoring and fisheries catch data of glass eel and young recruits ascending the European rivers, are the best indicators of the status of the eel stock. In Belgium, glass eel recruitment is monitored near the Yser River mouth, on the Belgian SW coast. The data series is one of the oldest operational series in Europe, going as far back as 1964.

Compared to other glass eel recruitment surveys, the Yser River glass eel data series is of particular interest for several reasons. The series is very long (over 40 years), and the sampling methodology has remained unchanged throughout the survey period. Also, the survey is not biased nor influenced by other fishing activities, as commercial fisheries or poaching on glass eel do not exist in Belgium.

#### **Methodology**

The GERS is carried out near the mouth of the Yser River (approx. 3.8 km upstream of the actual river mouth), close to the city of Nieuwpoort (Figure 7.1). The Yser is a relatively small lowland river (length 76 km) having its spring in the north of France and flowing through Flanders' polder area. The river's catchment area covers 1400 km<sup>2</sup> and is famous for its eel population, attracting many recreational eel fishermen. The river has a mean annual discharge of 5-6 m<sup>3</sup>/s, and river flow is regulated by sea sluices at Nieuwpoort.

The glass eel survey takes place in the Iepersluis ship lock near Nieuwpoort, starting at the end of February and continuing till the end of May. Every day, 2-3 hours before high tide, the outer, seaward doors of the ship lock are opened to allow glass eel to enter the lock. Glass eel samples are taken by pulling a dip net just under the water surface of the ship lock, over the entire length of the lock. The dip net has a width of 80 cm and is 60 cm high. Sampling is not carried out every day, but is dependent of weather conditions and tide. Usually, there are about 30 sampling operations per season, each consisting of 20-25 replicate samples. Sampling operations start 2-3 hours before high tide and stop at high tide.

Data collected during the sampling operations include date, starting and ending hour of each sampling operation, tidal data, glass eel catches (in kg), and length distributions of the glass eel catches.

All data will be stored in an eel database at INBO, and will be entered in the central VIS (Vis Informatie Systeem) database. Data will be reported to the relevant international eel

management groups (ICES/EIFAC Working Group on Eel and STECF Eel Management Group) and to the local (national and regional) authorities responsible for eel management in Belgium.

The methodology of the Belgian glass eel survey has been assessed by the EC Concerted Action 'Glass Eel' (Study Contract N°98/076, *Management of the European Eel: Establishment of a Recruitment Monitoring System*). Further details on the methodology of the GERS can be found in Belpaire (2002) and Dekker (2002) <sup>(5)</sup>.

## 7.2 MP - Derogations and non-conformities

### ❖ Justification of inclusion of the Glass Eel Recruitment Survey

In 2002, ICES concluded that a Recovery Plan for European eel was urgently needed, in view of the extremely poor state of the eel stock in the European waters <sup>(6)</sup>. In 2003, the European Commission laid down the general principles for an Eel Recovery Programme (COM 2003 573), followed by a proposal for a Council Regulation establishing measures for the recovery of the European eel stock (COM 2005 472). The EC proposes that the primary instrument for managing European eel should be the development by MS of national Eel Management Plans, but also insists that emergency measures be taken that have immediate effect on the eel stock.

Assessing the status of the eel stock requires appropriate and consistent data on different aspects of the eel populations and their dynamics. To that end, eel has been included in the revised version of the DCR (EC Regulation 1581/2004). So far however, the DCR only has provisions for the collection of eel-related *catch and effort data in marine waters*, but there is nothing in the revised DCR on scientific evaluation surveys for (glass) eel, neither as Priority 1, nor as Priority 2 surveys.

In order to be able to properly assess the status of the eel stock, specific fishery-dependent and -independent data are required on all three life stages of eel (glass eel, yellow eel and silver eel), in both inland and coastal waters. The data required were discussed during a dedicated workshop on eel management issues in Stockholm, Sweden <sup>(7)</sup>. The data sets identified during this workshop were chosen such as to enable scientists and managers to make estimates of eel recruitment, stock abundance, fishing mortality and escape rates of silver eel to the sea, which could then be used to evaluate whether the targets of the national Eel Management Plans were reached or not.

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<sup>(5)</sup> Belpaire, C. (2002): Monitoring of glass eel recruitment in Belgium. In: Dekker W. (Ed) Monitoring of glass eel recruitment. Netherlands Institute of Fisheries Research, Report C007/02-WD, Volume 2B, pp.169-180.

Dekker, W. (2002): Monitoring of glass eel recruitment. Netherlands Institute of Fisheries Research, Report C007/02-WV, 2 volumes.

<sup>(6)</sup> ICES (2002): Report of the ICES/EIFAC Working Group on Eels. ICES Doc. CM 2002/ACFM:03.

<sup>(7)</sup> Report of the Workshop on National Data Collection for the European Eel. Stockholm, Sweden, September 2005.

It is in this light that Belgium decided to proactively include proposals for (i) a pilot study on its recreational fisheries for eel, (ii) a glass eel recruitment survey, and (iii) a yellow eel monitoring survey in its NP proposal for 2007. ***Despite the positive advice on the eligibility of glass eel surveys – including pilot surveys – by the SGRN in December 2006*** (the SGRN negatively advised on the proposed yellow eel surveys and on the proposals for pilot studies on the recreational fisheries for eel in inland waters), ***the Commission decided to strictly adhere to the existing list of Priority 1 surveys*** (which does not include glass eel surveys) ***and not to fund the proposed glass eel recruitment survey.***

The issue was again addressed by the STECF Plenary in April 2007, who recommended that "However, [...] STECF considers that glass eel surveys (including pilot studies) should be included in the revised DCR, while a decision on the inclusion of all studies relating to eel in inland waters should be deferred until there is clarity on the scope of the new DCR" (excerpt taken from the May 7<sup>th</sup> draft version of STECF's report). Although STECF's recommendation only speaks about the eligibility of glass eel surveys ***under the new DCR*** (i.e. from 2009 onwards), it is clear that it also acknowledges the need for such surveys.

In view of (i) the urgent need for supporting scientific evidence on the status of eel recruitment, and (ii) the positive advice of both the SGRN and the STECF (albeit that the latter only applies from 2009 onwards), Belgium decided ***to give it another proactive try, and to resubmit the annual Glass Eel Recruitment Survey (GERS) as part of its 2008 NP.***

Bearing in mind that the GERS is starting end February, it is of utmost importance that a final decision (either positive or negative) on the eligibility of the proposed survey be communicated as quickly as possible after evaluation of the NP proposals by the SGRN in December. A positive advice that is formulated in April or May is of little use to a survey which is supposed to start end of February.

### **7.3 EP - Planned Priority 2 surveys**

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

### **7.4 EP - Non-conformities and priority upgrades**

None.

### **7.5 Budget**

Details on the budget for this Module are given in Appendices 7 (DYFS), 8 (North Sea BTS) and 9 (Glass Eel Recruitment Survey).

With respect to the budgets for the DYFS (Appendix 7) and the BTS (Appendix 8), it is worth stressing that no costs have been included for shipping time. So far, vessel costs have never been charged to ILVO-Fisheries by the owners of the vessels that are used for

these 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.

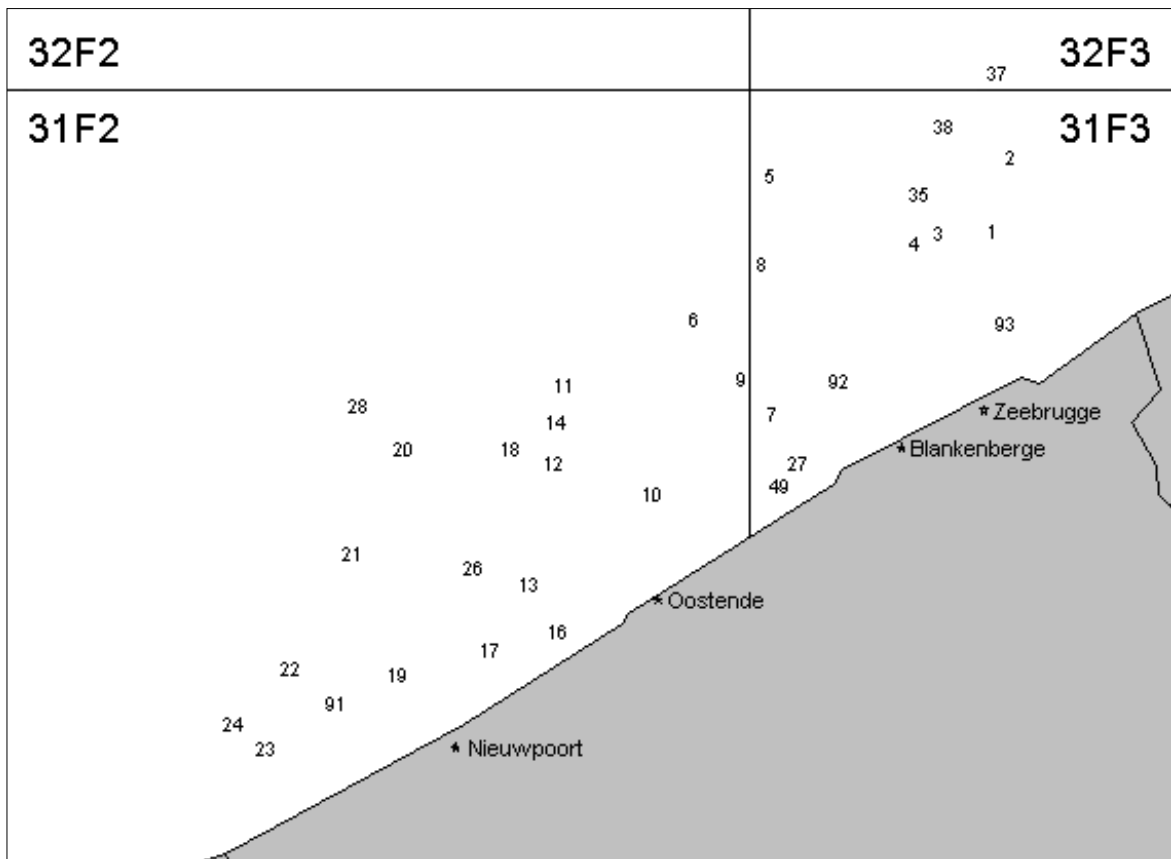


Figure 7.1 - DYFS sampling stations in the Belgian coastal waters and location of the GERS monitoring station (near the city of Nieuwpoort).

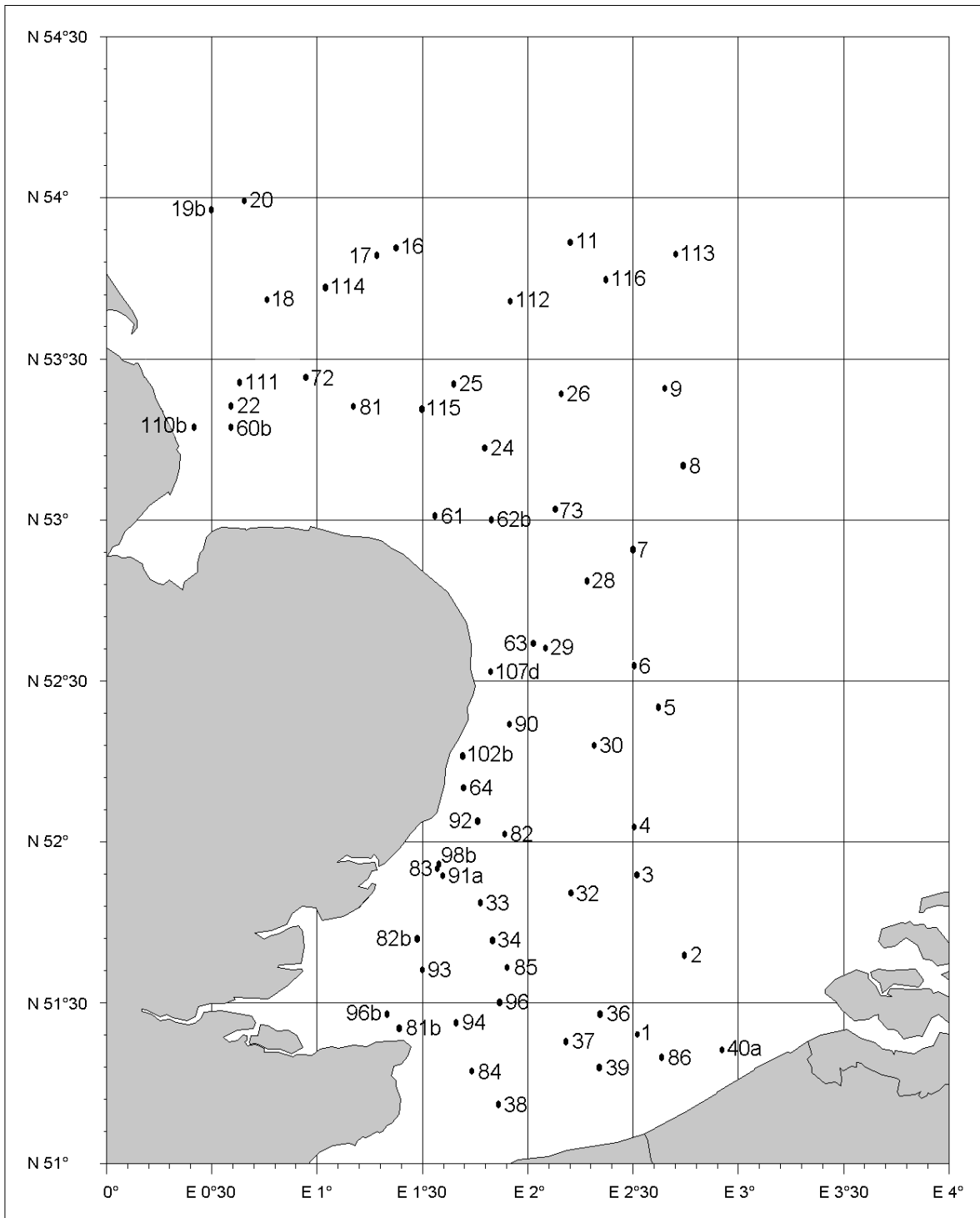


Figure 7.2 - BTS sampling stations in the south-western part of the North Sea.



## 8 Module H - Length and age sampling

### 8.1 MP - Landings - Planned sampling

#### ❖ Proposed sampling regimes for length and age

Details on the required and planned sampling for length and age (where applicable), are given in Table 8.1, for those species that are not subject to derogation (see Section 8.2 for details on derogations requested).

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' <sup>(8)</sup> 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 that are used for tuning purposes in analytical stock assessments.
- 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 *Lophius spp.*, *Microstomus kitt*, *Psetta maxima*, *Rajidae* and *Scophthalmus rhombus* (see Table 8.1).

Details on the length and age sampling programmes for all species in Table 8.1 are given in the sections below.

#### ***Gadus morhua - ICES Sub-areas IV + VIId and VIIa***

Sampling strategy: Market sampling, at-sea sampling.

The cod stocks in ICES Sub-areas IIIa+IV+VIId (Skagerrak, North Sea and eastern Channel) and VIIa (Irish Sea) are currently under a Recovery Plan and therefore, ILVO-Fisheries will sample these stocks for both length and age in 2008.

Cod landed by the flatfish directed beam trawlers operating in ICES Sub-areas IV+VIId will be sampled for length <sup>(9)</sup> and age (see Table 8.1 for details on planned sampling levels) <sup>(10)</sup>. At the market, length and age sampling will be by market category, from randomly chosen boxes of fish. In addition, length and age sampling of the retained

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<sup>(8)</sup> 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.

<sup>(9)</sup> Unless stated otherwise, all length measurements of fish are by total length, to the cm below.

<sup>(10)</sup> Belgian cod landings from ICES Sub-area IIIa strongly vary from one year to another, all come from one statistical rectangle that borders Sub-area IVb and therefore, will not be sampled separately.

portions of the cod catches is foreseen during all sea-going observer trips in the North Sea and the Eastern English Channel (for details, see Section 8.5).

In ICES Sub-area VIIa, length and age sampling of the retained catches of cod will be done as part of the at-sea sampling programme in the area (for details, see Section 8.5).

#### ***Lophiidae - ICES Sub-area VII***

Sampling strategy: At-sea sampling.

From the 2002 pilot study set up for *Lophiidae* in ICES Sub-area VII, it appeared that this species group is best sampled on-board during sea-going observer trips. At-sea sampling of anglerfish was initiated in 2003 and will be carried on in 2008 as part of the sea-going observer programmes in the area (for details, see Section 8.5).

#### ***Merluccius merluccius - Northern stock***

Sampling strategy: At-sea sampling.

Belgium will help monitor the northern hake stock, which is currently subject to a Recovery Plan. To that aim, retained and discarded portions of the catch will be sampled for length and age during all sea-going observer trips in all relevant sea areas (for details, see Section 8.5).

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

Sampling strategy: Market sampling.

Length sampling of lemon sole will be done at the market, on a quarterly basis. Minimum sampling intensities required by the DCR are considered to be insufficient for stock assessment purposes and therefore, sampling intensities will be increased to the level shown in Table 8.1 (costs incurred from sampling in excess of the MP requirements will be at national expense).

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

Sampling strategy: Market sampling, at-sea sampling.

In the 1990s and early 2000s, plaice and sole were primarily 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 ALKs, the length distributions of the two species were then converted into age compositions by quarter and by TAC area.

Over the past years however, Belgium has experienced increasing difficulties to maintain its market sampling schemes for plaice and sole, with ship owners refusing to have their landings sampled, with vessels fishing in several ICES Sub-areas during the same trip and

landing 'blended' catches, etc. Therefore, ILVO-Fisheries has been looking for alternative sampling strategies.

At-sea sampling for length and age of the retained fractions of the plaice and sole catches (amongst several other species) was introduced in 2003 as part of the sea-going observer programmes, and since then, it has become an increasingly important and valuable source of information. It is the intention to put even more emphasis on the sea-going observer trips in the years to come, and to use this system as the main data source for length and age. At-sea sampling for length and age comprises two complementary approaches:

- On-board length measurements on the retained (and discarded) catch fractions by the sea-going observers.
- The collection of samples for subsequent length and age measurement by the technical staff of ILVO-Fisheries. To that aim, the observers tag several boxes with fish of known origin, which are then bought from the vessel owner by ILVO-Fisheries. This approach has proven to be very efficient and has successfully been applied in 2006 and 2007.

Over the past years, sampling effort for plaice and sole has increasingly been shifted from market sampling to at-sea sampling. In 2008, at-sea sampling will be the major source for obtaining plaice and sole samples, while market sampling will mainly be used as a fallback option when sampling levels risk falling short of the targets.

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

Sampling strategy: Market sampling, at sea sampling.

Sampling for length and age for both species will be done at the market, on a quarterly basis, with samples taken from randomly chosen boxes per market category. Sampling intensities required under the MP of the DCR are considered to be insufficient for stock assessment purposes and therefore will be increased to the levels given in Table 8.1 (costs for sampling in excess of the MP requirements at national expense). In addition, lengths of turbot and brill will also be measured during the observer trips.

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

Sampling strategy: Market sampling.

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 continue to be sampled in 2008 (length only). Sampling intensities required under the MP (25 length measurements annually for the three species combined) are considered to be insufficient to yield useful data and therefore will be increased to the levels shown in Table 8.1 (costs for sampling in excess of the MP requirements at national expense).

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 2008, all species will be sampled (for length only) through market sampling. Again, the sampling intensities required under the MP (50 length measurements annually for the five

species combined) are considered to be too low to produce meaningful length frequency distributions and hence, they will be increased to the levels shown in Table 8.1 (costs for sampling in excess of the MP requirements at national expense).

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

With respect to the landings by Belgian flag vessels into other MS, a distinction must be made between (i) 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 (ii) vessels actually landing and selling their catches abroad (mostly in the Netherlands, occasionally in other countries).

In general, landings by foreign flag vessels for first sale in a Belgian auction are marginal compared to the landings into these vessels' home countries.

#### ***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 ILVO-Fisheries on the Belgian side and CEFAS (Lowe-stoft) on the UK side. A copy of the agreement is attached as an annex (see page 56).

#### ***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 IMARES (IJmuiden). Landings by Belgian vessels into the Netherlands for transportation to and first sale in a Belgian auction will be sampled by ILVO-Fisheries upon arrival of the landings in Belgium. Sampling of these landings was taken into account when calculating the sampling levels in Table 8.1.

Landings by Dutch vessels into Belgium for first sale in a Belgian auction are negligible (293.5 t landed weight in 2006, of which 27 t horse mackerel, 36 t whiting, 27 t bib, 32 t gurnard and 27 t of 'mixed' demersals) compared to the total landings by the Dutch fishing fleet and do not justify a dedicated sampling programme.

#### ***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 ILVO-Fisheries upon arrival of the landings in the auction. Sampling of these landings was taken into account when calculating the sampling levels in Table 8.1.

Landings by French vessels into Belgium for first sale in a Belgian auction are negligible (75 t landed weight in 2006, of which 50 t sole) compared to the total landings by the French fishing fleet and do not justify a dedicated sampling programme.

#### ***Other***

Belgian landings for first sale (and for transshipment, for the matter) into other countries than the UK, the Netherlands and France are negligible: 44.5 t (landed weight) into Denmark (mostly plaice, brown shrimp and cod) and 1.5 t into Ireland (figures for 2006).

Landings by 'other' foreign flag vessels (that is, other than UK, Dutch and French vessels) into Belgium are marginal: 18.5 t landed weight in 2006 by German vessels and 2.5 t by Danish vessels.

In view of their minor importance, it was decided not to set up special arrangements for the length and age sampling of these landings.

#### ❖ **Quality assurance system for age readings**

In 2008, ILVO-Fisheries will start implementing a quality assurance system for its age readings (on both landings and discards), based on the TACADAR recommendations <sup>(11)</sup> and the ISO 9001 2000 standards. The system will be developed in the course of 2007, and should be ready for implementation early 2008. Apart from rigorous standard operational procedures (SOPs), the quality assurance system will comprise several protocols for the cross-checking and validation of the age readings. The focus of the system will primarily be on the otolith readings of plaice (*Pleuronectes platessa*) and sole (*Solea solea*), the two major target species in the Belgian landings and discard sampling programmes.

### **8.2 MP - Landings - Derogations and non-conformities**

An overview of all species for which length and age sampling is mandatory under the DCR (i.e. species flagged with an 'M' in Appendix XV of the DCR) in the areas actually fished by the Belgian fleet (see Table 1.1 for a synoptic overview), together with the exemption rules applied (if any), is given in Table 8.2.

The only derogation requested that does not match the DCR exemption rules, is for the length and age sampling of *Merluccius merluccius* (hake) in the Bay of Biscay (ICES Sub-area VIIIabde). The northern stock of hake (of which Sub-area VIIIabde forms a part) is currently under a Recovery Plan, which means that, in principle, no derogation can be granted. However, the total Belgian hake landings from the Bay of Biscay are 10 t only, on an overall area TAC of  $\approx 19700$  t (i.e. less than 0.1 %), and it is beyond arguing that there is little to be gained from sampling these.

### **8.3 EP - Landings - Planned sampling**

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

### **8.4 EP - Landings - Non-conformities**

None.

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<sup>(11)</sup> TACADAR (Towards Accreditation and Certification of Age Determination of Aquatic Resources) was an EU Concerted Action (Q5CA-2002-01891, 2002-2006) aiming to promote the adoption of standard procedures for age estimation that include strict quality assurance and quality control mechanisms. One of TACADAR's achievements was the production of guidelines for quality assurance and control manuals in age estimation.

## 8.5 MP & EP - Discards - Planned sampling

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 view of (i) its overall fishing effort in an area, and/or (ii) its share in the TACs or the international landings of its prime target species. Fisheries that meet these criteria are the flatfish directed beam trawl fisheries in ICES Sub-areas IV (North Sea), VIIa (Irish Sea), VIId (eastern Channel), VIIe (western Channel) and VIIfg (Celtic Sea) (also see Section 5.5 and Table 5.2).

### ❖ Discard sampling in the flatfish directed beam trawl fisheries

Sampling strategy: At-sea sampling by sea-going observers.

Details on the numbers of observer trips planned in each fishery and the seasonal distribution of sampling effort are given in Table 5.3. In most areas, fishing by the Belgian beam trawler fleet is concentrated in certain quarters of the year (depending on catch rates and quota availability), and the observer trips are scheduled accordingly. The proposed sampling scheme may however be adjusted in the course of the year, depending on changes in fleet behaviour, temporal closures of TAC areas, etc.

Species-wise annual estimates of the total weight in the discards will be made for all Appendix XII and XIII species of the DCR. This is in excess of the MP-requirements of the DCR but the time needed to collect these data is marginal compared to the core of the discard sampling programme, which is primarily focused on the most abundant commercial species. Table 8.4 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 during all at-sea sampling operations 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 Table 8.4 for details).

Finally, it is the intention to test the feasibility of 'full-scale catch sampling' (that is, length sampling on all fish species, both commercial and non-commercial, in both the retained and the discarded catch fractions) during a restricted number of observer trips (period and target fleet to be decided in the course of 2007). Belgium understands that such an extension of the at-sea sampling programmes is likely to become the rule under the new DCR <sup>(12)</sup> – amongst other in view of the upcoming ecosystem approach to fisheries management and hence, the need for supporting data collection systems – and would like to gain some experience with full-scale catch sampling before it becomes mandatory (presumably from 2009 onwards).

### ❖ Quality assurance system for age readings

See Section 8.1, para. Quality assurance system for age readings.

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<sup>(12)</sup> See e.g. Report of the STECF Sub-group on Research Needs (SGRN): Revision of the Biological Data Requirements under the Data Collection Regulation (meeting coded SGRN 06-03), December 2006.

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

See Section 5.6.

## **8.7 Budget**

Details on the budget for this Module are given in Appendices 10 (Length and age sampling of landings) and 11 (Length and age sampling of discards).

With respect to Appendix 11, it should be stressed that the proposed budget also includes the costs for estimating the overall quantities of Appendix XII and XIII species discarded by the Belgian beam trawlers (see Section 5.5). These costs however, are small compared to the expected costs for length and age sampling.

## 9 Module I - Other biological sampling

### 9.1 MP - Planned sampling

#### ❖ Proposed sampling regimes for 'Other biological parameters'

A multi-annual sampling scheme for biological parameters (2002-2008) is given in Table 9.1. Species and stocks listed in Appendix XVI of the DCR but not in Table 9.1 will *not* be investigated (see Table 8.2 for details on the exemption rules applied).

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

#### *Nephrops norvegicus - ICES Sub-area IVbc - FU 5*

All *Nephrops*-related sampling activities were ceased end 2006, and there are no plans to resume sampling on this stock in 2008 (see 2006 Technical Report for details).

#### *Pleuronectes platessa - ICES Sub-area IV, and Solea solea - ICES Sub-area IV*

So far, Belgium has always applied for derogation on 'Other biological parameters' for the plaice and sole stocks in the North Sea, based on the argument that it takes < 10 % of the North Sea TAC of these species. Following the discussions at the 2005 RCM North Sea & East Arctic however, it is prepared to initiate sampling for *sex-ratios*, *growth* and *sexual maturity* on these stocks within the framework of an internationally co-ordinated data collection scheme, should the RCM decide to set up such a scheme in the area.

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

Prime data source: Market sampling, at-sea sampling.

At present, *sex ratio* 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 programmes (for details, see Sections 8.1 and 8.5).

As in previous years, *sexual maturity* will routinely be investigated for all plaice and sole stocks listed in Table 9.1, as part of the routine market sampling programmes on these species and stocks (for details, see Section 8.1).

Belgium takes notice of (i) the comments made by the 2005 RCM North Sea on the timing of sexual maturity studies (see 2005 report of RCM North Sea, Section 11), and (ii) the fact that two dedicated workshops will be organised in 2007 (Workshop on Sexual Maturity Sampling and Workshop on Maturity Staging on Demersals) to give guidance on standard



methodologies for sexual maturity studies (including timing, staging, etc.). Pending the outcome of these workshops, it is proposed to maintain the current sampling strategy and sampling levels for the maturity studies on plaice and sole, and to thoroughly reconsider these once the recommendations of the workshops are available.

### ***Rajidae - ICES Sub-areas IV and VII (except VIId)***

Prime data source: Market sampling, scientific evaluation surveys.

**Sex ratios** will be calculated on a yearly basis, as part of the routine market sampling programmes for rays (for details, see Section 8.1).

**Sexual maturity** data for rays in Sub-area IV will be collected during the BTS survey in August (see Section 7.1 for details on this survey). Typically, between 100 and 200 rays (mostly *Raja clavata* and *R. montagui*) are caught during this survey. ILVO-Fisheries 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.

### **❖ International co-operation**

Belgium understands that it is the RCMs' intention to promote international co-operation on the data collection for 'Other biological parameters', to (i) improve the overall quality of the estimates, and (ii) optimise the cost-benefit relationship of the supporting sampling programmes. Initiatives along these lines are likely to be undertaken by the RCM North Sea & East Arctic and the RCM North-East Atlantic (the two RCMs in which Belgium is involved) in the years to come and to have an impact on the planning of the national data collection programmes. This may result in last-minute adjustments being made to the proposed data collection scheme for 2008. Belgium considers that ***such adjustments should be acceptable without having to go through the formal DCR-channels first***, provided that the changes do not result in an increase in costs for data collection under Module I.

### **9.2 MP - Derogations and non-conformities**

See Table 8.2. Belgium does not apply for derogations other than for the species/stocks to which the formal DCR exemption rules apply.

### **9.3 EP - Planned sampling**

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

#### **9.4 EP - Non-conformities**

None.

#### **9.5 Budget**

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

Generally speaking, the budget for biological studies can be split into two parts: (i) the costs for obtaining and analysing the samples, and (ii) the costs for working up the data resulting from the analyses. The biological studies that will be undertaken in 2008 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 12 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 10 (Length and age sampling of landings) and 11 (Length and age sampling of discards).

## **10 Module J - Economic data by group of vessels**

### **10.1 MP - Planned sampling**

Economic data by group of vessels are collected through questionnaires that are filled in by the ship owners on a voluntary basis (see Table 10.1 for details on fleet segments covered and numbers of vessels involved), 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 2006, the response rates were as follows:

- 52 % (27 vessels out of 52) for the beamers of 12-24 m;
- 63 % (38 vessels out of 60) for the beamers of 24-40 m; and
- 20 % (1 vessel out of 5) for the demersal trawlers (12-24 and 24-40 m combined).

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 MP - Derogations and non-conformities**

None.

### **10.3 EP - Planned sampling**

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

### **10.4 EP - Non-conformities**

None.

### **10.5 Budget**

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

## **11 Module K - Data concerning fish processing industry**

### **11.1 MP - Planned sampling**

As in 2006 and 2007, 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 (see Table 11.1 for details on population and sample sizes), and that should be returned to ILVO-Fisheries for subsequent analysis (see 2006 Technical Report for details on parameter definitions and a copy of the questionnaire). The experience gained in 2006 and 2007 with the voluntary response system will be used to refine the data collection system, with a view to increase the overall response rate and the quality of the responses (also see 2006 Technical Report, Section 13.5).

For obvious reasons, the proposed data collection system will show a time-lag of at least one year, since the data collected in 2008 at the best will refer to the financial situation of the processing companies in 2007.

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.

### **11.2 MP - Derogations and non-conformities**

None.

### **11.3 EP - Planned sampling**

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

### **11.4 EP - Non-conformities**

None.

### **11.5 Budget**

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

## **12 Databases**

### **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 2007 and 2008 NDGPs.

#### **❖ ILVO-Fisheries**

The results from the North Sea Beam Trawl Survey (for details, see Section 7.1) are currently stored in a central WGBEAM database, held by IMARES on behalf of ICES.

### **12.2 Development of new databases**

#### **❖ ILVO-Fisheries**

In April 2003, ILVO-Fisheries started with the development of a central depository for NDGP-data (the so-called Belsamp database), in co-operation with a sub-contracted software developer. The Belsamp database has a modular structure, with (i) separate modules for the quality control, storage, partial treatment and retrieval of fisheries statistics, data from market and discard samplings, survey data, etc., and (ii) 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 the 2005 NP proposal.

The Belsamp database is now mostly completed and will be used shortly as a depository for all historical and new NDGP data.

❖ **FishFrame**

In 2006, the North Sea countries have started exploring the potential of FishFrame with a view to its future use as a regional depository for fisheries statistics (primarily landings and effort data) and biological data. Such a move implies that large amounts of data will need to be uploaded from Belsamp to FishFrame. This can best be done by means of automated exchange protocols, to make sure that data transmission is flawless and in the proper format. In the budget proposals for 2007 and 2008, a *pro memore* cost was/is foreseen for the development of such protocols. As last year, it is proposed to only use this sum if the RCM North Sea & East Arctic actually decides to start using FishFrame as a common data warehouse for all North Sea fish and shellfish data.

### **12.3 Budget**

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

## **13 National and international co-ordination**

### **13.1 National co-ordination**

National co-ordination of the Belgian NDGP will be ensured by regular informal contacts between the section heads of the participating institutes (see Section 2.2 for contact details), 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 programmes and biological updates that are also part of the Belgian NDGP.
- Through the activities of the Regional Co-ordination Meetings for the North Sea and East Arctic (RCM-NS&EA) 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), and the workshops organised under the umbrella of the Commission, STECF or JRC.

A provisional list of international co-ordination meetings, workshops, ring-tests, etc. that will be attended in 2008, is given in Table 13.1.

### **13.3 Follow-up of RCM recommendations and initiatives**

#### **❖ RCM North Sea - First Meeting - September/October 2004**

##### ***On sampling of foreign flag vessels***

***RCM recommendation:*** RCM North Sea recommends that MS start bilateral talks as soon as possible, with a view to establishing bilateral agreements on the issue of foreign flag vessel sampling.

***Responsive action taken:*** ILVO-Fisheries has a formal bilateral agreement with CEFAS (Lowestoft, England) on the sampling of Belgian and UK vessels landing their catches for

transshipment or first sale in each other's country, and an informal agreement with IMARES (IJmuiden, the Netherlands) on the sampling of Belgian and Dutch vessels (for details, see Section 8.1, para. Sampling of landings abroad and of landings by foreign vessels).

❖ **RCM North Sea - Second Meeting - September 2005**

*On small scale fisheries*

RCM North Sea made several recommendations on small scale fisheries (i.e. fisheries by vessels < 12 m). None of these however, is of relevance to the Belgian situation, since Belgium has no registered fishing vessels < 12 m.

*On sampling of foreign flag vessels*

**RCM recommendation:** RCM North Sea reiterates its 2004 recommendation on the conclusion of formal bilateral agreements on the sampling of foreign flag vessels, and on the inclusion of these agreements in the MS' national program proposals. However, RCM North Sea understands that certain countries/institutes may have legal objections against signing formal bilateral agreements of the type described above. In such cases, RCM North Sea insists that agreement be reached between the countries/institutes concerned on the sampling of each other's flag vessels, and that the commitments made are clearly spelled out in the national program proposals.

**Responsive action taken:** See above under RCM North Sea - First Meeting, On sampling of foreign flag vessels.

*On discard sampling*

**RCM recommendation:** RCM North Sea recommends that where discard sampling coverage is restricted to a low level, the country concerned considers whether the inputs from other countries are sufficient and enters into bilateral agreements where appropriate.

**Responsive action taken:** None so far. Belgium has one fishery where such an arrangement might be considered, viz. its *Nephrops* fishery in ICES Sub-area IVbc (FU 5), but in view of its small share in the *Nephrops* landings from the area, it is awaiting an initiative from the 'major players in the field'.

*On sampling for 'Other biological parameters'*

**RCM recommendation:** RCM North Sea recommends that countries enter into bi- or multilateral agreements in cases where the required level of sampling under the DCR is too low to make a useful contribution to maturity estimates by individual Member States.

**Responsive action taken:** None so far. Belgium agrees with the point of view of the RCM, but considers that such agreements can best be negotiated under the umbrella of the RCMs, once the Member States' planned sampling activities for 2008 are known (also see Section 9.1, para. International co-operation).

❖ **RCM North Sea & East Arctic - Third Meeting - September 2006**

There were no recommendations that affected the 2008 NP proposal.



#### ❖ **RCM North East Atlantic - First Meeting - September 2004**

##### *On sampling of foreign flag vessels*

**RCM recommendation:** RCM NEA recommends that MS start bilateral talks as soon as possible, with a view to establishing bilateral agreements on the issue of foreign flag vessel sampling. RCM NEA encourages MS to include copies of these agreements in their National Program submissions for the year 2006. [...] The agreements should include the following elements:

- Who will sample what and where?
- Which National Programme budgets will cover the associated costs?
- In case of sampling outside flag country, who will hold the data?

**Responsive action taken:** See above under RCM North Sea - First Meeting, On sampling of foreign flag vessels.

#### ❖ **RCM North East Atlantic - Second Meeting - September 2005**

##### *On sampling for 'Other biological parameters'*

**RCM Recommendation:** RCM NEA recommends seeking multilateral agreements to overcome the obligation to provide data [on sexual maturity] for species by Member States that have small catches of these species.

**Responsive action taken:** None so far. For an explanation, see above under RCM North Sea - Second Meeting, On sampling for 'Other biological parameters'.

#### ❖ **RCM North East Atlantic - Third Meeting - October 2006**

##### *On sampling for 'Other biological parameters'*

**RCM Recommendation:** RCM NEA recommends a sampling design oriented for the proper area and season to obtain maturity data, intensifying the maturity sampling in the period of sexual activity.

**Responsive action taken:** None so far. For an explanation, see above under RCM North Sea - Second Meeting, On sampling for 'Other biological parameters'.

### **13.4 Follow-up of SGRN recommendations**

#### ❖ **SGRN - July 2004**

There were no recommendations that affected the 2008 NP proposal.

#### ❖ **SGRN - December 2004**

##### **SGRN: General comment on Precision levels for discard estimates**

SGRN notes that several countries have reported difficulties in reaching the precision

levels established in the DCR for discard sampling, and for this reason they have requested for derogation. SGRN acknowledges the fact that due to the variable nature of discards, as shown by several studies [...], the precision levels required by the DCR are in many fisheries excessive and thus only achievable at great economic expense.

[...]

SGRN has reservations about obtaining derogation purely on the grounds of the inability to reach the required precision level, since this might be seen as a permission to stop discard sampling. SGRN concluded that the problem of excessive precision under the MP cannot be resolved in a simple way. It suggests that MS attempt to achieve the highest precision possible within the constraints of excessive cost, and that this problem will need to be considered again in the revision of the DCR.

**Responsive action taken:** Over the past four years, Belgium has made serious efforts to extend its discard sampling programme and to direct sampling effort primarily to those fisheries where the Belgian fleet is assumed to contribute most to discarding. These efforts have resulted in the hiring of three sea-going observers (on a total NP-staff of 12) and in the number of planned observer trips having gone up from six in one fishery (flatfish directed beam trawl fishery in the Irish Sea) in 2002, to around 30 in five fisheries (flatfish directed beam trawl fisheries in the North Sea, the Eastern and Western Channel, the Irish Sea and the Celtic Sea) in 2008 (for details, see Section 5.5 and Table 5.3). For the moment, however, ILVO-Fisheries is on the limit of its carrying capacity with regards to at-sea sampling, and any further improvement of the quality of discard data will have to be realised through international co-operation.

***SGRN: General comment on CPUE series for tuning purposes and associated length and age sampling***

SGRN noted that in many cases, fleet CPUE series which are used for tuning assessments under the MP also include length and age compositions associated with the fleets. In cases where a fleet has declined over time and no longer supports sufficient landings to justify the collection of length and age data, SGRN accepts that these fleets are eligible for derogation and should be moved out of the MP. However, if the changes appear to be only a temporary switch in activity of the fleet such as might occur following quota restrictions, then MS should be encouraged to maintain the time series by including the length and age samples under the EP.

**Responsive action taken:** There is one Belgian CPUE data series that falls into this category, viz. the one for FU 5 *Nephrops*. Over the past years, the Belgian *Nephrops* directed fishery in FU 5 has constantly been on the decline, and the number of specialised *Nephrops* trawlers has fallen to such a low number that the CPUE data are no longer fit for tuning purposes. Nevertheless, Belgium will continue collecting CPUEs on this fishery, as the basic data to the series (landings and effort by fishing trip) are collected anyhow as part of the routine landings and effort data recording system (also see Section 6.5).

❖ **SGRN - June-July 2005**

There were no recommendations that affected the 2008 NP proposal.

❖ **SGRN - December 2005**

***SGRN: General comment on Reporting of landings abroad***

The Evaluators commented that several MS did not provide text on the landings of fish either in other MS or in countries outside the EU. SGRN reminds MS of the following articles in Council Regulation (EC) 2847/1993:

*Article 9.1*

*Auction centres or other bodies or persons authorised by Member States, which are responsible for the first marketing of fishery products landed in a Member State shall submit, upon the first sale, a sales note to the competent authorities of the Member State in whose territory the first marketing takes place.*

*Article 11.1*

*Without prejudice to Articles 7, 8 and 9, the master of a Community fishing vessel who:*

- *tranships to another vessel, hereinafter referred to as "the receiving vessel", any quantities of catches of a stock or a group of stocks subject to a TAC or quota irrespective of the place of transhipment, or*
- *directly lands such quantities outside Community territory,*

*shall at the time of the transhipment or of the landing, inform the Member State whose flag is flying, or in which his vessel is registered, of the species and quantities involved and of the date of transhipment or of landing and of the location of catches by reference to the smallest zone for which a TAC or quota has been fixed.*

*Article 15.1*

*Before the 15th of each month, each Member State shall notify the Commission by computer transmission of the quantities of each stock or group of stocks subject to TACs or quotas.*

*Article 15.2*

*The Commission shall keep available to Member States on computer the notifications received pursuant to this Article.*

SGRN regards these articles as fully covering the requirement to report landings abroad and expects that MS comply to this requirement, regardless as to whether this is explicitly mentioned in their NP Proposals or not.

***Responsive action taken:*** Belgium has a well-established data recording and exchange system for landings by foreign vessels for either first sale in a Belgian auction or transhipment to the flag country of the vessels concerned. Conversely, Belgium is receiving full information from the relevant MS (there are no Belgian landings outside the EU) on the landings by its flag vessels into other countries. We therefore can conclude that the Belgian data collection system for landings and effort is in full compliance with the above recommendation (also see Section, 5.1, para. International data exchange).

***SGRN: General comment on the Interpretation of biological sampling requirements***

2006 is the first year when NP Proposals should reflect the amended version of the DCR

(EC Regulation 1581/2004). In the new version of the DCR, it is stipulated that MS must apply a sampling strategy targeting the precision levels specified in para. 3,a,i,b for the biological sampling (length and age) of their catches. The sampling intensities defined in Appendix XV of the revised version of the DCR and calculated from the quantities landed, have since then become a "fallback option", in case the target precision level cannot be achieved.

According to the provisions of the new DCR, sampling intensities of the mandatory stocks must be set at least at the sampling levels of the "fallback option" and preferably at levels that allow reaching precision level 1, which is the lowest precision level defined in the DCR. SGRN is of the opinion that, for each sampled mandatory stock, MS should ensure a sampling design – either on their own or in co-operation with other MS – that covers the main fishing activities and the seasonality of the fisheries. Moreover, if the stock is under a Commission Recovery Plan, the sampling design should target precision level 2 instead of level 1.

In the light of the revised approach, a mandatory stock for which the exemption rules do not apply, must be sampled for length and, where appropriate age, according to the general principles set out in the previous paragraphs, and the low levels of sampling of the "fallback option" can never be used as an argument not to sample the stock.

***Responsive action taken:*** Belgium has never used the low sampling levels of the "fallback option" as an argument for not sampling a particular species or stock. Instead, target sampling levels have always been adjusted upwards (in a number of cases at national expense) to guarantee at least some degree of spatial and temporal coverage (for details on planned and achieved sampling levels, see Table 8.1 in this or in previous years' NP proposals, and Table 10.1 in the 2005 or 2006 Technical Reports).

***SGRN: General comment on Accessibility and compensation of commercial fishing vessels***

SGRN reminds MS that they have the obligation to provide access for sea-going observers to any fishing vessel. SGRN recommends, however, that this should, if possible, be done through co-operation with the fishing industry, which has proven its effectiveness in many MS.

In relation to payments, SGRN distinguishes two situations in which ship owners and/or skippers may be paid by MS under the DCR:

- Ship owners and/or skippers receive a payment for assistance put into the sampling operations, and/or costs induced by the observers (safety equipment, food, etc.) or the sampling process (loss of value of landed fish owing to removal of otoliths, etc.) (= compensation); and
- A payment for having the observers on board (= reward).

SGRN recommends that the DCR should provide the opportunity for paying skippers compensations, because these can be considered as normal sampling costs. SGRN further recommends that the DCR should provide the opportunity for paying rewards by individual MS only if paying rewards serves the purpose of increasing the quality of the data collection through increasing the pool from which vessels can be randomly

selected. SGRN recognizes, however, that this does not relieve MS from their tasks of providing access to any fishing vessel as is laid down in the DCR.

**Responsive action taken:** In Belgium, observer access to fishing vessels is on a voluntary basis. So far, the system has worked satisfactorily, although it must be admitted that the number of accessible vessels is relatively small. The problem has recently (April 2007) been discussed with the (new) director of the Belgian fishermen's organisation, and it was agreed that a joint initiative (ILVO-Fisheries - PO) would be taken to increase the pool of accessible vessels.

In Belgium, vessels are *not* being paid rewards for taking observers and it is the intention to hold on to this approach.

***SGRN: General comment on Sampling information and precision levels for economic data (under Module J)***

SGRN recognises the difficulty of achieving standard precision levels for fleet economic data. SGRN also notes that the calculation of precision levels requires that samples are random or at least, reflect some degree of randomisation. SGRN urges MS to provide full and clear information in their NP Proposals concerning sampling and survey procedures in order that the likely quality and reliability of the data can be assessed.

**Responsive action taken:** Details on the sampling methodology under Module J are given in Section 10.1 of the present document. Belgium recognises that a data collection system based on voluntary responses does not necessarily yield a random(ised) picture. There are, however, administrative and political constraints that prevent the introduction of other approaches (see document *Reply to the request by the European Commission for further information on the 2005 Technical Report*, September 2006).

❖ **SGRN - July 2006**

***SGRN: General comment on Derogation rules regarding low level of landings***

In the case of decreasing landings of a species, for instance from stocks under recovery plans or stocks below standard biological limits, the strict application of DCR rules can result in a decrease in the number of samples carried out and in the quality of the estimates. Even in the case of achieving a specific precision target, the market length and age sampling could be less accurate and the fishing mortality estimates could be unreliable, e.g. such as in the case of a species not being landed but catches continue to be discarded.

SGRN proposes that MS should undertake to sample to precision levels rather than on the basis of historical landings so that the mortality estimates derived from catch age and length sampling are accurate and achieve a high precision for the individual species and stocks affected.

**Responsive action taken:** In as much as possible, Belgium has always tried to sample at levels that guarantee sufficient spatial and temporal coverage, also for species where the formal sampling requirements are very low in view of the small quantities landed from a particular species or stock (see Table 8.1 in this or in previous years' NP proposals for details on national sampling targets compared to the MP-requirements).

## ❖ SGRN - December 2006

### *SGRN: General comment on Parameter definitions for the processing industry*

Firstly, SGRN recommends that MS should comply with the provisions of the DCR. Nevertheless, SGRN recognises the difficulty of collecting economic data for the processing industry, also considering that the definition of several parameters in Appendix XIX of the DCR is not clear. SGRN is aware that a Workshop on the Processing Industry was held early in 2006 to propose precise definitions of the economic parameters to be adopted for the fish processing industry in the new DCR. In the meantime, SGRN suggests that MS consider the outcomes of the WS, particularly concerning the definition of the parameters and recommends that the MS provide clear information in their NP Proposals and Technical Reports concerning the measurements of the parameters listed in Appendix XIX of the DCR.

**Responsive action taken:** The recommendations of the Workshop on the Processing Industry, mentioned in SGRN's comment, were taken into account when putting together the questionnaires that were sent to (fish) processing companies as part of the 2006 NP and that will be used again as part of the 2007 and 2008 NPs (for details, see 2006 Technical Report, Section 13.1).

## 13.5 Budget

Details on the budget for this Module are given in Appendix 16. As on May 31<sup>st</sup>, 2007, the list of eligible meetings was not available yet, the version of Appendix 16 that was forwarded to the Commission along with the present NP proposal should be considered as highly provisional.

To correctly appreciate the cost estimates given in Appendix 16, 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 16 are the ones related to the activities of international Working, Study and Planning Groups that are considered eligible by the Commission under the DCR.

## 14 Acronyms and abbreviations

ALK	Age-length key
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> )
CPUE	Catch per unit effort
DCR	Data Collection Regulation
DYFS	Demersal Young Fish (and Brown Shrimp) Survey
EC	European Commission
EIFAC	European Inland Fisheries Advisory Commission
EP	Extended Programme under the requirements of the DCR
FU	Functional Unit (geographical definition of <i>Nephrops</i> stocks)
GERS	Glass Eel Recruitment Survey
GT	Gross tonnage
ICES	International Council for the Exploration of the Sea (Denmark)
ILVO	Institute for Agriculture and Fisheries Research (Belgium) (formerly Centre for Agricultural Research, CLO)
INBO	Research Institute for Nature and Forest (Belgium)
IMARES	Institute for Marine Resources & Ecosystem Studies (Netherlands)
JRC	Joint Research Center (Italy)
LOA	Length over all
LPUE	Landings per unit effort
MP	Minimum Programme under the requirements of the DCR
MS	EU Member State(s)
NDGP	(Belgian) National Data Gathering Programme
NP	National Programme
PGCCDBS	ICES Planning Group on Commercial Catch, Discards and Biological Sampling
RAC	Regional Advisory Council
RCM	Regional Co-ordination Meeting
RCM NEA	Regional Co-ordination Meeting for the North-East Atlantic
RCM NS&EA	Regional Co-ordination Meeting for the North Sea & the East Arctic
RFO	Regional Fisheries Organisation
SGRN	STECF Sub-group on Research Needs
STECF	Scientific, Technical and Economic Committee on Fisheries
TAC	Total allowable catch
VIS	Vis Informatie Systeem (regional database with all information related to fresh water fish in Flanders)
WGBEAM	ICES Working Group on Beam Trawl Surveys

## **15 Comments, suggestions and reflections**

### **15.1 Suggestions for improving the DCR**

Belgium notices that there is a persistent lack of clarity with regards to the sampling programmes for eel. Although there is general agreement within the scientific community on the need for long-term monitoring programmes for glass eel, yellow eel and silver eel, and for data on the total removals from the eel stock, including eel taken in river basins by recreational fishers, the decision on how to (co)finance the eel-related sampling programmes keeps dragging on. For reasons which are far from being clear to us, all recommendations made by the relevant expert groups to include eel in the (new) DCR, are flatly being disregarded by the Commission. Belgium urges the Commission to finally make up their mind, and to give the MS clear and definite guidance under which framework (Water Framework Directive, DCR, other) they should seek financial support for their eel-related sampling and monitoring activities, other than the collection of landings and effort data on the eel fisheries in their coastal waters.



**Bilateral Agreement between the UK (CEFAS) and  
Belgium (ILVO - Fisheries) for the collection of length and age samples  
under the Minimum Programme of EC Regulation 1639/2001  
and its amendments in EC Regulation 1581/2004**

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.

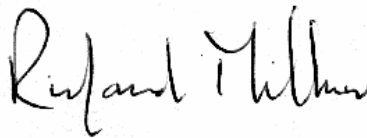
In compliance with this, the UK and Belgium have agreed that samples of fish landed by Belgian vessels into the UK and transported for first sale into Belgium will be sampled upon arrival in the Belgian auctions by ILVO - Fisheries as part of the Belgian National Data Gathering Programme under the requirements of the EC Data Collection Regulation (EC Regulation 1639/2001, amended by EC Regulation 1581/2004). ILVO - Fisheries 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 ILVO - Fisheries.

This agreement confirms the arrangements in place since 2004, and agrees that it should be continued until further notice.

Signed for CEFAS:

Date: April 23<sup>rd</sup>, 2007



Signed for ILVO - Fisheries:

Date: April 24<sup>th</sup>, 2007

