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Scientific, Technical and Economic Committee for Fisheries (STECF) Report of the SGMOS-09-05 Working Group on Fishing Effort Regimes Regarding Annex IIA of TAC & Quota Regulations and Celtic Sea

28 September – 2 October, ISPRA, ITALY

Prepared in draft by SGMOS-09-04: 25-30 May, IPIMAR, LISBON, PORTUGAL

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SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF)

STECF COMMENTS ON THE REPORT OF THE SGMOS-09-05 WORKING GROUP REPORT

28 SEPTEMBER – 2 OCTOBER 2009, ISPRA, ITALY

PREPARED IN DRAFT BY SGMOS-09-04: 25 -30 MAY, IPIMAR, LISBON, PORTUGAL

STECF UNDERTOOK THE REVIEW DURING THE PLENARY MEETING

HELD IN NORWICH 26-30 APRIL 2010

1. BACKGROUND:

STECF is requested to review the reports of the SGMOS-09-03, 09-04 &09-05 Working Group meetings, evaluate the findings and make any appropriate comments and recommendations. A preliminary review was provided at the STECF autumn plenary meeting 2009 since the SGMOS group was at that time still receiving revisions of data and had not been able to finalise its reports.

The working group was requested for:

1. an assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Baltic Sea cod management plan R(EC) No 1098/2007 and in Annex II to Regulation (EC) No 43/2009;

2. an assessment of fishing effort deployed by fisheries and métiers which will be affected by the extension of the cod recovery plan to the Celtic Sea

3. an assessment of fishing effort and evaluation of management measures to be assessed in 2009 (Deep sea and Western Waters effort regime)

Since 2004, the STECF subgroup SGMOS Effort Management (previously SGRST), has performed the task of collating and evaluating effort and catch data for fisheries operating under the Annex II A-C regimes. In 2009 SGMOS was asked to provide analysis according to the original cod recovery plan and also the revised cod plan with its simplified gear categories. A significant management development in the new cod plan was the direct linking of effort management to achievement of fishing mortality targets. Crucial to this process was the establishment of effort baselines and an annual evaluation and adjustment of effort. The latter has brought the work of SGMOS into sharp focus and the

effort material has become the subject of close scrutiny and debate. During 2009, ongoing discussions about a cod plan for the Celtic Sea led to a request for STECF to update the effort information first provided for this area in 2008.

An additional task identified for STECF SGMOS in 2009 was the evaluation of effort and catches in the Baltic Sea. Given the established database and the relatively fewer gears and countries operating in the Baltic, this was seen as a straightforward extension of the work of SGMOS.

During 2009, a third area of evaluation emerged concerning two other existing management regimes, namely the Western Waters Regulation and Deep Sea Regulation. In view of the requirement once again for evaluation of effort data, the group was well placed to deal with this. However, there were specific deep sea issues and questions involved in this work and suitable experts attended an additional meeting to deal with these.

TOR addressed by the 2009 STECF-SGMOS WGs

The TOR given to SGMOS are listed in the following section. These are organised by area. STECF notes that alongside generic questions applied to all areas there are a number of requests tailored to specific areas. The Deep Water and Western Waters TOR are presented slightly differently and in addition to basic requests for data summaries covering effort, catch and catch composition, there are rather more strategic questions concerning the ongoing development of the Regulations concerned. Overall, the TOR list is extensive and demanding although STECF notes that the Commission acknowledgement that the Western waters and Deep Sea work represented a starting point for a longer term process and that it was unlikely that all questions would or could be answered immediately.

Approach adopted by Study Groups

The data call was issued on 16th March 2009 (corrigendum 19th March).

The Study Group met on three occasions in 2009. Inter-sessional work was carried out prior to the final meeting. STECF notes that data shortfalls and data revisions received throughout the process impaired the group's progress and restricted the time available for data synthesis and interpretation. Two significant updates involving Danish and French data were received and incorporated after the final meeting (in November and December respectively). A decision was taken not to incorporate data revisions received after 9th December 2009 although STECF is aware that some member states made further submissions direct to the Commission after this date; these are not incorporated in the report.

The group agreed that the extensive and diverse data and issues addressed would benefit from presentation in three reports covering respectively Baltic Sea (part 1) Annex II and the Celtic Sea (part 2) Deep Sea and Western Waters and (part 3). STECF notes that decisions were taken to streamline the material contained in the reports by adopting an area based presentation and by posting the official data tables in EXCEL format together with the final report on the STECF website as agreed with DG MARE.

Progress and Status of Reports

The report covering the Baltic Area (STECF SGMOS 09 05 Report part 1 was completed in January 2010 and reviewed by STECF by written procedure during March.

The report covering the Annex II effort management regime was completed in April 2010 and has been reviewed at the present STECF plenary meeting.

Considerable progress has been made with the Deep Sea and Western Waters report and examination of some of the material shows promise in terms of understanding deep sea fishing activities and the catch compositions supporting them. This report requires further text preparation and will be completed shortly for review by correspondence. SGMOS has provided some preliminary comments.

2. TERMS OF REFERENCE:

The overall list of TORs for SGMOS in 2009 are listed below. Note that separate reports were prepared for the Baltic Sea TORS and the Deep Water /Western Waters TORs

1 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Baltic Sea cod management plan R(EC) No 1098/2007

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

Areas covered by the R(EC) No 1098/2007 (Baltic Sea)

(i) ICES division 22 to 24,

(ii) ICES divisions 25 to 28, by distinguishing areas 27 and 28.2

(iii) ICES divisions 29 to 32,

The data should also be broken down by

Member State ;

regulated gear types designed in **R(EC) No 1098/2007**;

unregulated gear types catching cod in fishing areas (i), (ii) and (iii);

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod in the Baltic Sea by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod in the Baltic Sea by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod in the Baltic Sea (such data shall be issued by Member state, fishing area (i), (ii) and (iii) and fishing gear concerned inn accordance with Art. 3 of **R(EC) No 2187/2005**).

2. If relevant data are available, to comment on the quality of estimations on total catches and discards.

3. To assess the fishing effort and catches (landings and discards) of cod in the Baltic Sea and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear and by Member State according to sampling plans implemented to estimate these parameters.

4. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Baltic Sea, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

2 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Kattegat (Annex IIA to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Kattegat (ICES functional unit IIIaS)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping deployed during the years 2004, 2005, 2006 and 2007: to what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Kattegat, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

3 – an assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Skagerrak, the North Sea and the Eastern Channel (Annex IIA to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

(i) Skagerrak (ICES functional Unit IIIaN),

(ii) North Sea (EC waters of ICES sub-area II and ICES sub-area IV),

(iii) Eastern channel (ICES division VIId)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod, sole and plaice in fishing areas (i), (ii) and (iii) ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

a. Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

b. Concerning effort in kW-days and gear grouping (also per Member State), catches and cpue/lpue in the **Eastern Channel** (division VIId): Describe the development of these parameters in 2008 compared to previous years, overall and per Member State, and compare these developments to developments observed in the rest of the area (Skagerrak and North Sea), in particular: Can effort displacement from the North Sea towards the Eastern Channel be identified in certain gears?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the the Skagerrak, the North Sea and the Eastern Channel, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

4 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the West of Scotland (Annex II A to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

West of Scotland (ICES division VIa and, in 2009 for the first time, EC waters of Vb)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice in areas covered by Annex IIA, by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

a. Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

b. Concerning effort in kW-days, catches and cpue/lpue for 2004, 2005, 2006 and 2007: What effect, at Member State level, does the inclusion of EC waters of division Vb have on the data concerning the area **West of Scotland** ?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the the West of Scotland, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

5 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Irish Sea (Annex IIA to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

(d) Irish Sea (ICES division VIIa)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice, by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice in areas covered by Annex IIA to **R(EC) No 43/2009**.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Irish Sea, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

6 – An assessment of fishing effort deployed by fisheries and métiers which will be affected by the extension of the cod recovery plan to the Celtic Sea

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

(g) Celtic Sea (total of ICES divisions VIIb, VIIc, VIIe, VIIf, VIIg, VIIh, VIIj and VIIk and total for the subset of ICES divisions VIIf and VIIg)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod (such data shall be issued by Member state and fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**).

2. When providing and explaining data in accordance with point (1), the following **specific questions** should be answered as well:

a. Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

b. Concerning effort, CPUE/LPUE and catch data linked to the **Celtic Sea**:

(i) Compare the fishing effort level evaluated per fishery and per gear groupings in VIIf+VIIg with the data submitted for ICES rectangle 28E2 and conclude on whether exploitation of cod shows similar characteristics;

(ii) For VIIf+VIIg only, evaluate how much of the overall fishing effort per gear groupings would be framed by a management of fishing effort that relates to cod catches of 2 or 3 or 5 or 7,5 % in the catch composition per vessel and per year ?

(iii) For VIIf+VIIg only, identify the **main species** (volume and percentage) caught per gear category, and related trends in recent years. Specify when this calculation has taken account of discards as well.

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of cod and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Celtic Sea, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

7 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Atlantic waters of the Iberian Peninsula (Annex IIB to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Atlantic waters of the Iberian Peninsula (ICES divisions VIIIc and IXa, excluding the Gulf of Cadiz)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching hake and Norway lobster ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of hake and Norway lobster by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-hake and non-Norway lobster in areas covered by Annex IIB (a particular attention should be paid to **Anglerfish catches**), by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of hake, Norway lobster and Anglerfish in areas covered by Annex IIB (such data shall be issued by Member state, fishing gear and special conditions listed in **Annex IIB to R(EC) No 43/2009**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of hake, Norway lobster and Anglerfish, and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

5. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Atlantic waters of the Iberian Peninsula, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

8 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Western Channel (Annex IIC to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Western Channel (ICES division VIIe)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching sole ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of sole in areas by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-sole in areas by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of hake, Norway lobster and Anglerfish (such data shall be issued by Member state, fishing gear and special conditions listed in **Annex IIB to R(EC) No 43/2009**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: to what extent does data provided by Member States differ

from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of hake, Norway lobster and Anglerfish and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Atlantic waters of the Iberian peninsula, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

9 - Assessment of fishing effort and evaluation of management measures to be assessed in 2009 (Deep sea and Western Waters effort regime)

Terms of Reference:

A) Deep sea access regime

Background

Council Regulation 2347/2002 established specific access requirements to fishing for deep-sea species, aiming at limiting fishing effort on deep-sea species at levels observed prior to that Regulation (1998 to 2000). In addition, the yearly overall maximum effort in terms of kilowatt-days has been fixed by annual decisions emanating from the December regulation on TACs & Quotas in order to comply with NEAFC provisions regarding the effort reduction policy within the Regulated area in international waters. The Commission presented an evaluation report on the management of deep sea fish stocks to the Council and the Parliament in 2007 (COM(2007)30). In this report, the Commission concluded on a number of steps to be taken in order to improve the access regime. In 2008 the European Parliament adopted a report that reflects on the access regime and the Commission's view on future development (A6-0103/2008). The Commission plans to propose amendments to the access regime in 2009, after stocktaking of Member State and stakeholder views and of scientific advice.

Detailed Request

STECF is asked to

1) in view of the management objective to target effort measures towards specific fisheries:

a) Related to maps[1] that show by ICES statistical rectangle the distribution of catch volumes (species in order of importance) and related effort volumes (per gear category): Define the deep-sea fisheries by analysing per year, including trends observed, at Community and Member State level, gears and related effort in kW-days catching in distinct areas the species listed in Annex I and II of Regulation 2347/2002. Analyse the catch composition observed by gear category including trends over recent years, catch per unit effort and, where possible, the likely level of discards. Comment on any fishing practices that can be identified as influencing the differences in catch composition from haul to haul. Can the species be grouped into target species and by-catch species in each fishery?

b) Advise on possible improvements to

the definition of data that Member States are obliged to send to the Commission in accordance with Article 9 of Regulation 2347/2002, with a view to improving the definition of deep-sea fisheries as undertaken under litera a);

other provisions of Regulation 2347/2202, in particular the one on the on-board observer coverage (Article 8).

2) in view of the management objective to define most relevant species of the deep-sea fisheries, to target effort measures towards specific fisheries, and to define the measures according to the conservation needs of the species,

1 As of end of March, it is planned that JRC will produce those maps prior to meeting.

Review the species lists of Annex I and II of Regulation 2347/2002 according to the following criteria:

a) In the fisheries identified, are there any other deep-sea species being caught in quantities that would merit their inclusion in Annex I or II? For example:*Physis spp.*; *Alepocephalus bairdii*.

b) Are any of the species listed in the annexes often or predominantly caught in fisheries that target non-deep sea species? If so, should they continue to be included in the list of deep-sea species in Annexes I or II?

c) Could the species listed in Annex I and II be grouped into:

species that based on their life history characteristics are particularly vulnerable to fishing and should therefore not be exploited

species that based on their life history characteristics are less vulnerable to fishing and could thus be sustainably exploited.

d) Following from the exercise described under point 1), could the species listed in Annex I and II be grouped according to target/by-catch species combining all fisheries observed?

3) See point 2 a) of the Western Waters part of the ToR. This point concerns deep sea and Western Waters regime likewise.

B) Western Waters access regime

Background

The Commission is held to review the Western Waters access regime in force since 2004, based on Regulations 1954/2003 and 1415/2004. The objective of the Western Waters access regime is to avoid an increase in fishing effort compared to recent levels (1998-2002), defined as overall effort directed towards demersal stocks, and effort on some benthic fisheries. A separate constraint on maximum effort levels within a special conservation zone, the so-called "Irish Box", is designed to accompany the restrictions on the use of demersal gears in that area, in view of the area's importance as a spawning and nursery ground, in particular for hake.

Detailed request

STECF is asked to

1) Concerning the functioning of the WW effort regime:

a) Aggregate at Member State and Community level fishing effort per year in kW-days and GT-days by demersal gear types, by vessel length >10m and >15m, and by ICES areas V to X and CECAF divisions 34.1.1, 34.1.2, 34.2.0; provide a description of yearly effort trends since 2000 per area, gear and main species composition, compare these aggregated data with effort ceilings established in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

b) Aggregate at Member State and Community level fishing effort directed towards scallops per year in kW-days and GT-days by gears and by vessel length >10m and >15m by ICES areas V to X and CECAF divisions 34.1.1, 34.1.2, 34.2.0; provide a description of yearly effort trends since 2000 per area and gear, compare these aggregated data with effort ceilings established in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

c) Aggregate at Member State and Community level fishing effort directed towards edible crab and spider crab per year in kW-days and GT-days by gears and by vessel length >10m and >15m by ICES areas V to X and CECAF divisions 34.1.1, 34.1.2, 34.2.0; provide a description of yearly effort trends since 2000 per area and gear, compare these aggregated data with effort ceilings in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

d) Aggregate at Member State and Community level fishing effort per year in kW-days and GT-days by vessel length >10m and >15m and by

demersal gear types,

by gears catching scallops,

and by gears catching edible crab as well as spider crab,

in the Biologically Sensitive Area as defined in Article 6 of Regulation 1954/2003; provide a description of effort trends since 2000 in this area, compare these aggregated data with effort ceilings established in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

2) Concerning the definition of the WW effort regime:

a) Assess the definition of the WW effort restrictions in the context of overlapping or neighbouring effort regimes, in particular the deep sea access regime (Regulation 2347/2002), the cod plan (Regulation 1342/2008), the Southern hake plan (Regulation 2166/2005) and the Western Channel sole plan (Regulation 509/2007). In particular:

The present Western Waters regime aims at excluding fisheries directed towards deep-sea species. Discuss possible alternative criteria for the delimitation of both regimes (e.g. according to the depth of the waters in which the vessels operate or according to catch composition) or specific rules for addressing vessels that catch both deep sea species and other species;

Discuss possible redefinition of the scope of Western Waters effort restrictions in areas where fishing effort is restricted by the cod plan (VI a, V b, VII a);

b) Evaluate the precision of the definition in Regulations 1954/2003 and 1415/2004 of "fishing effort" in terms of area, time, and fishing pattern;

c) Evaluate whether fishing effort defined in GT-days or in kW-days is better correlated to the fishing mortality on edible crab and spider crab;

d) Assess possible reasons for excluding gears directed towards pelagic fisheries from the regime, in particular whether effort restrictions for pelagic fisheries in those areas might be less correlated to fishing mortalities than effort restrictions for demersal fisheries.

3) Concerning the possible evolution of the WW effort regime

a) Describe in a standardised way at Community level the characteristics of the demersal fisheries by main effort (by overall amount in kW-days and by gear category according to DCR) and main quota species (by catch volume), per ICES division in areas V to X and in CECAF 34.1.1, 34.1.2, 34.2.0, for the years 2005 to 2008;

b) Assess the relationship between the development of demersal effort in these areas and the development of TACs of main demersal species abundant in those areas, for the years 2005 to 2008.

3. STECF COMMENTS AND CONCLUSIONS

SGMOS highlights a number of general observations and issues affecting the overall process of collating and evaluating effort data before providing some area specific observations.

General comments

- STECF has reviewed and adopted Parts 1 (Baltic Sea, report published) and 2 of the STECF SGMOS effort management report (Annex IIA and Celtic Sea, see following comments) and plans to review Part 3 by correspondence as soon as Part 3 is completed.
- STECF considers that, for a number of areas, the aggregate effort data represent a further improvement on previous years and **endorses** the outputs produced by SGMOS-09-05 for use in the relevant effort management regimes.
- STECF notes that the assignment of effort and catches to categories of gear is based on best expert knowledge, data availability and methods used, which also reflects cooperation with the national control and enforcement institutions. STECF considers that the simplification of the gear categories in the revised cod plan of Annex IIA will greatly facilitate this process.
- STECF notes that discard data are still incomplete from some member states and areas. Furthermore, STECF is unable to comment on the quality of the fleet specific estimates of total catches mainly due to shortfalls in the discard data, lack of requested data quality parameters, i.e. number of discard samples, fish measured and aged. STECF recommends that particular attention is paid to the report sections dealing with CPUE and to the cases where only LPUE figures are provided owing to the shortage of discard data.
- STECF considers that it would be advantageous if further alignment could be achieved between the effort management regime gear categories and the requirements and rationale of the Data Collection Framework. This would enhance the prospects for obtaining improved catch data.
- STECF notes that the work of SGMOS is to collate and summarise data provided by member states. In this respect the output is dependent on timely submission of accurate material and STECF SGMOS is only able to provide an output which reflects the quality of these data. While every effort is made to accommodate updates and revisions from member states, it is not possible to capture all of these in the finalised reports.
- STECF notes that in common with previous effort evaluation work (covering other areas), the data compilation for the analysis covered in the three parts of the report was often absent, late or inconsistent
- Given the difficulties created, STECF particularly acknowledges the major contribution made by Hans-Joachim Rätz of the JRC in developing, maintaining and uploading data to the various databases. The facility with which the database can be queried to address ad hoc questions and terms of reference is extremely beneficial.

- STECF supports the view that more permanent future resourcing, support and succession planning to ensure maintenance of the STECF database is necessary. STECF also recommends that more transparent arrangements for access to the database are discussed and agreed.

- Given the repeated experience of late and inconsistent data reports received from some Member States, STECF considers that continuing efforts by the Commission will be required to inform and educate national administrations on the required procedures, timescales and quality of data submissions.
- STECF considers that for future meetings it is vital that data are agreed and useable by the time of the first meeting.

Specific comments Part 2 Annex II and Celtic Sea

- STECF notes that SGMOS has, during its three meetings, updated fleet specific effort and catch (including discard estimates where available) data up to 2008 and provides results based on an aggregation which is consistent with the fleet/gear defined in Annexes IIA, IIB and IIC to Council Reg. 40/2008 and Annex IIA 40/2009. This year a number of countries undertook revisions of data and overall the quality is considered to have improved.
- STECF considers that the simplification of the gear categories in the revised cod plan of Annex IIA has facilitated a more straightforward data compilation and evaluation.
- STECF-SGMOS notes that in respect of Review of Annex IIB of Council Reg. 40/2008 in the context of the recovery plan for Southern hake and *Nephrops* (Regulation 2166/2005), data were provided by Spain and Portugal but there were many inconsistencies and errors such that not all effort could be assigned adequately to regulated gears.
- STECF notes that Portugal has recently spent some time improving the data available for use in 2010 and STECF suggests that this process is urgently required by Spain before an adequate evaluation of effort under Annex IIB can be carried out.
- STECF notes that the situation in Annex IIC continues of a high proportion of effort being attributable to unregulated gears
- STECF considers that further progress was made by SGMOS this year in collating data and preparing advice on the Celtic Sea

STECF/SGRST-09-05 WORKING GROUP REPORT

ON ASSESSMENT OF FISHING EFFORT REGIMES

ISPRA ITALY, 28 SEPTEMBER – 2 OCTOBER 2009

PREPARED IN DRAFT BY SGMOS-09-04: 25-30 MAY, IPIMAR, LISBON, PORTUGAL

This report does not necessarily reflect the view of the European Commission and in no way anticipates the Commission's future policy in this area

1. SUMMARY OF FINDINGS FOR ANNEX II AND CELTIC SEA

General remarks

- STECF-SGMOS was given an extensive list of TORs to tackle. Good progress was made with some of these although TORs concerning catch data quality was not addressed and the Group considers that outcomes from SGRN will inform this process. TORS concerning Deep Sea and Western waters were partly tackled.
- STECF-SGMOS has during its three meetings updated fleet specific effort and catch (including discard estimates where available) data up to 2008 and provides results based on an aggregations defined in Annexes IIA, IIB and IIC to Council Reg. 40/2008 and also 40/2009. Several countries revised and improved their submissions although there are still shortfalls from some Member States. Data were provided on a wider range of metrics including catch by country and CPUE by country.
- STECF-SGMOS was again asked to collate data and advise on the Celtic Sea and completed a detailed section in the Annex II report addressing several additional TORs.
- STECF-SGMOS was asked to collate data and advise on the Baltic Sea and completed a new report. This provides an incomplete picture owing to very poor data provision from some Member States
- STECF-SGMOS notes that assignment of derogations is based on best expert knowledge, data availability, and methods used which also reflects cooperation with the national control and enforcement institutions. In a number of cases improved communication and submission has taken place but there is some way to go. The simplification of effort categories in the Annex IIA cod plan should enhance quality.
- STECF-SGMOS continues to be concerned over the fleet specific estimates of total catches in some areas and for some fleets. This is mainly due to the quality of discard estimates provided. It is unclear how representative these are and what their precision is. The group considers that estimates of catch and CPUE should be used with caution.
- STECF-SGMOS considers that it would be advantageous if there was closer alignment between the effort management regime and the requirements and rational of the new Data Collection Framework. Such rationalisations would improve evaluation of fleet effort regulations.
- STECF SGMOS reiterates earlier comments about support and maintenance of the STECF database.
- Given the repeated experience of late and inconsistent data reports received from some Member States, STECF considers that continuing efforts by the Commission will be required to inform and educate national administrations on the required procedures, timescales and quality of data submissions. To this end, STECF recommends that there is i) a repeat of the 2009 effort workshop early in 2010 ii) early **notification** and subsequent release of the 2010 data call.

Review of Annex IIA of Council Reg.s 40/2008 and 40/2009 in the context of the cod recovery plan (Regulation 423/2004):

- STECF-SGMOS notes consistency between the updated fleet specific effort and catch data provided in 2009 and the historic information provided in previous years

for a number of Member States but draws attention to differences in some Member States where structured data revision took place.

- STECF-SGMOS notes that the shift away from the derogation based approach in 40/2008 to the reduced gear categories in 40/2009 has simplified the task and is likely to lead to more reliable categorisation and reporting.
- STECF-SGMOS estimated further effort reductions from 2007 to 2008 in most areas regarding most of the cod, plaice and sole sensitive derogations, particularly trawl gears and gill netters.
- STECF-SGMOS continues to observe a high constancy in the catch compositions of the fleets defined in Annex IIA.
- STECF-SGMOS notes increased discards of 3 year old cod in 2008 (year class 2005) in the Skagerrak, in the North Sea and to the West of Scotland by the majority of cod sensitive gears.

Review of Annex IIB of Council Reg. 40/2008 in the context of the recovery plan for Southern hake and *Nephrops* (Regulation 2166/2005)

- STECF-SGMOS notes that data were provided by Spain and Portugal but that there were many inconsistencies and errors such that not all effort could be assigned adequately to regulated gears.

Review of Annex IIC of Council Reg. 40/2008 in the context of the recovery of Western Channel sole (proposal COM (2003) 819 final)

- STECF-SGMOS notes that with the exception of discard data there have been significant improvements in the provision of data from Member States and the requested fleet specific effort data is now regarded as complete. The lack of discard data continues to impair the estimation of catches and some inconsistent data aggregations prevents a precise review of the effects of the defined derogations.
- STECF-SGMOS notes that there are no indications of effort reductions in terms of kW*days, GT*days or number of vessels regarding the sole sensitive derogations. Overall effort is lowest in the time series.
- STECF-SGMOS notes that the non-regulated (effort in days at sea) otter trawl fleet accounts for about 85% of the effort and contributes significantly to the estimates of landings in weight of cod (84%), plaice (23%) and sole (about 33%). In the case of cod, unregulated otter trawl take about 81% of the total

Review of Celtic Sea effort and catches in the context of proposals to extend the cod recovery zone to include cod stocks in this area

- Data were provided by key players in the fisheries operating in the Celtic Sea region. The coverage was considered adequate to continue the process of describing and detailing activities and catches using the framework of the Annex IIA as applied in other areas.
- STECF SGMOS was able to provide summaries for two different spatial descriptions. One for the Celtic Sea as a whole and one for ICES areas VIIfg only.
- Trawl effort predominated in both areas and has declined in both areas recently.
- Results suggested that the VIIfg definition of the Celtic Sea accounted for a large part of the cod landings of the area as a whole and that the CPUE of cod in this area is higher than the area as a whole.

- STECF SGMOS discussed whether any future extension of the cod recovery plan to apply to the Celtic Sea cod stock should apply to the whole area or would be effective if restricted to the smaller subset area. It was considered that additional information (such information on spawning area or nursery ground) in areas outside VIIfg would be needed to make such a judgement.

2. INTRODUCTION

The STECF Sub-group on "fishing effort management" held its first annual meeting in IPIMAR Lisbon in Portugal, 25-30 May 2009 (SGMOS-09-04). The original plan was to perform analysis of effort regimes as in previous years with the addition of a review of Baltic effort. In the preparatory period of 2009, an additional requirement for the group was identified, namely an evaluation of Deep Sea and Western Waters effort. As a consequence the group was allocated an additional meeting (held in Copenhagen July 13-17 (SGMOS-09-03) parallel to the STECF Summer plenary) specifically to address tasks associated with the Deep Sea and Western Waters work. A progress report from the first two meetings was made available at the July STECF plenary.

In common with previous years a final meeting (SGMOS-09-05)was held, this time in ISPRA, Italy 28 September to 2 October ostensibly to complete the report writing. Owing to late revisions of data however, a considerable amount of time was spent in finalising data – indeed in 2009 there were revisions of data occurring until December and some final changes by MS agreed with DGMARE which SGMOS were not formally made aware of. The protracted nature of the data finalisation has resulted in late preparation of the reports from SGMOS.

To provide continuing transparency in the scientific advisory process, the meeting was open to observers (sec. 4), including stakeholder representatives. One industry representative participated in the first meeting.

Note that in order to keep the documentation manageable, separate reports were prepared for the Baltic Sea work and the Deep Sea /Western Waters work. *This report* covers the work associated with Annex II and the cod plan and includes the Celtic Sea review. Following discussions within the group, the report structure has been changed slightly. Section 6 covering the existing cod recovery areas has been reorganised to reflect the regional structure of the TORs. All information relating to each area (Kattegat, North Sea etc.) is grouped together. It is hoped this will aid the reader.

3. TERMS OF REFERENCE

DG MARE of the EU-Commission provided the STECF Subgroup SGMOS-09-04, 09-03, and 09-05 (in chronological order) with an extensive list of TORs reflecting the extended tasks of the group in 2009.

The overarching request was for: i) an assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes as defined in Annex II to Regulation (EC) No 40/2008 and …cod plan (including an assessment of fishing effort deployed by fisheries and métiers which would be affected by the extension of the cod recovery plan to the Celtic Sea); ii) an assessment of effort in the Baltic Sea and iii) an assessment of effort in Deep Sea and Western Waters regimes

The overall list of TORs for SGMOS in 2009 are listed below. Note that as mentioned above, the Baltic Sea TORS (item 1) and the Deep Sea /Western Waters TORs are dealt with in separate reports.

Item 1 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Baltic Sea cod management plan R(EC) No 1098/2007

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

Areas covered by the R(EC) No 1098/2007 (Baltic Sea)

(i) ICES division 22 to 24,

(ii) ICES divisions 25 to 28, by distinguishing areas 27 and 28.2

(iii) ICES divisions 29 to 32,

The data should also be broken down by

Member State ;

regulated gear types designed in **R(EC) No 1098/2007**;

unregulated gear types catching cod in fishing areas (i), (ii) and (iii);

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod in the Baltic Sea by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod in the Baltic Sea by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod in the Baltic Sea (such data shall be issued by Member state, fishing area (i), (ii) and (iii) and fishing gear concerned inn accordance with Art. 3 of **R(EC) No 2187/2005**).

2. If relevant data are available, to comment on the quality of estimations on total catches and discards.

3. To assess the fishing effort and catches (landings and discards) of cod in the Baltic Sea and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear and by Member State according to sampling plans implemented to estimate these parameters.

4. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Baltic Sea, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 2 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Kattegat (Annex IIA to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Kattegat (ICES functional unit IIIaS)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping deployed during the years 2004, 2005, 2006 and 2007: to what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Kattegat, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 3 – an assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Skagerrak, the North Sea and the Eastern Channel (Annex IIA to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing areas:

(i) Skagerrak (ICES functional Unit IIIaN),

(ii) North Sea (EC waters of ICES sub-area II and ICES sub-area IV),

(iii) Eastern channel (ICES division VIId)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod, sole and plaice in fishing areas (i), (ii) and (iii) ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

a. Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

b. Concerning effort in kW-days and gear grouping (also per Member State), catches and cpue/lpue in the **Eastern Channel** (division VIId): Describe the development of these parameters in 2008 compared to previous years, overall and per Member State, and compare these developments to developments observed in the rest of the area (Skagerrak and North Sea), in particular: Can effort displacement from the North Sea towards the Eastern Channel be identified in certain gears?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the the Skagerrak, the North Sea and the Eastern Channel, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 4 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the West of Scotland (Annex II A to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

West of Scotland (ICES division VIa and, in 2009 for the first time, EC waters of Vb)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice in areas covered by Annex IIA, by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

a. Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

b. Concerning effort in kW-days, catches and cpue/lpue for 2004, 2005, 2006 and 2007: What effect, at Member State level, does the inclusion of EC waters of division Vb have on the data concerning the area **West of Scotland** ?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the the West of Scotland, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 5 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Irish Sea (Annex IIA to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

(d) Irish Sea (ICES division VIIa)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod, sole and plaice, by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod , non-sole and non-plaice by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice (such data shall be issued by Member state, fishing area and fishing effort group designed in **Annex I to R(EC) No 1342/2008**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. Based on the information compiled under point (1) above, to rank fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**, on the basis of their contribution to catches expressed both in weight and in number of cod, sole and plaice in areas covered by Annex IIA to **R(EC) No 43/2009**.

4. If relevant data are available, to comment on the quality of estimations on total catches and discards.

5. To assess the fishing effort and catches (landings and discards) of cod, sole and plaice and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Irish Sea, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 6 – An assessment of fishing effort deployed by fisheries and métiers which will be affected by the extension of the cod recovery plan to the Celtic Sea

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

(g) Celtic Sea (total of ICES divisions VIIb, VIIc, VIIe, VIIf, VIIg, VIIh, VIIj and VIIk and total for the subset of ICES divisions VIIf and VIIg)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** and in **Annex I** to **R(EC) No 1342/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching cod ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of cod by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-cod by species, by weight and by numbers at age.

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod (such data shall be issued by Member state and fishing effort groups as designed in **Annex I to R(EC) No 1342/2008**).

2. When providing and explaining data in accordance with point (1), the following **specific questions** should be answered as well:

a. Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

b. Concerning effort, CPUE/LPUE and catch data linked to the **Celtic Sea**:

(i) Compare the fishing effort level evaluated per fishery and per gear groupings in VIIf+VIIg with the data submitted for ICES rectangle 28E2 and conclude on whether exploitation of cod shows similar characteristics;

(ii) For VIIf+VIIg only, evaluate how much of the overall fishing effort per gear groupings would be framed by a management of fishing effort that relates to cod catches of 2 or 3 or 5 or 7,5 % in the catch composition per vessel and per year ?

(iii) For VIIf+VIIg only, identify the **main species** (volume and percentage) caught per gear category, and related trends in recent years. Specify when this calculation has taken account of discards as well.

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of cod and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Celtic Sea, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 7 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Atlantic waters of the Iberian Peninsula (Annex IIB to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Atlantic waters of the Iberian Peninsula (ICES divisions VIIIc and IXa, excluding the Gulf of Cadiz)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching hake and Norway lobster ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of hake and Norway lobster by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-hake and non-Norway lobster in areas covered by Annex IIB (a particular attention should be paid to **Anglerfish catches**), by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of hake, Norway lobster and Anglerfish in areas covered by Annex IIB (such data shall be issued by Member state, fishing gear and special conditions listed in **Annex IIB to R(EC) No 43/2009**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: To what extent does data provided by Member States differ from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of hake, Norway lobster and Anglerfish, and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

5. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Atlantic waters of the Iberian Peninsula, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 8 – An assessment of fishing effort deployed by fisheries and métiers which are currently affected by fishing effort management schemes defined in the Western Channel (Annex IIC to Regulation (EC) No 43/2009)

Terms of Reference:

1. To provide historical series, as far back in time as possible, according to each of the following fishing area:

Western Channel (ICES division VIIe)

The data should also be broken down by

Member State ;

regulated gear types designed in **Annex II** to **R(EC) No 40/2008** (and by associated special conditions defined in Annex II to **R(EC) No 40/2008** as far as relevant) ;

unregulated gear types catching sole ;

for the following parameters:

a. Fishing effort, measured in kW.days, in GT.days and in number of vessels concerned

b. Catches (landings and discards provided separately) of sole in areas by weight and by numbers at age.

c. Catches (landings and discards provided separately) of non-sole in areas by species, by weight and by numbers at age

d. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of hake, Norway lobster and Anglerfish (such data shall be issued by Member state, fishing gear and special conditions listed in **Annex IIB to R(EC) No 43/2009**).

2. The following **specific questions** should be answered as well:

Concerning effort in kW-days by gear grouping per area deployed during the years 2004, 2005, 2006 and 2007: to what extent does data provided by Member States differ

from data provided in the **2008 data call**, which are the reasons given for such differences, and are the differences reasonably explained so that the working group considers reporting on the revised data being more accurate?

3. If relevant data are available, to comment on the quality of estimations on total catches and discards.

4. To assess the fishing effort and catches (landings and discards) of hake, Norway lobster and Anglerfish and associated species corresponding to vessels of length overall smaller than 10 metres in each fishery, by gear (corresponding to regulated and unregulated gear as defined in Annex II framework) and by Member State according to sampling plans implemented to estimate these parameters.

6. To describe, as far as possible, the spatial distribution of the fishing effort deployed in the Atlantic waters of the Iberian peninsula, according to data reported in logbooks on the basis of ICES statistical rectangles, with the aim to determine to what extent fishing effort has moved from long distance to coastal areas since the implementation of first fishing effort regime for the first time in such areas.

Item 9 - Assessment of fishing effort and evaluation of management measures to be assessed in 2009 (Deep sea and Western Waters effort regime)

Terms of Reference:

A) Deep sea access regime

Background

Council Regulation 2347/2002 established specific access requirements to fishing for deep-sea species, aiming at limiting fishing effort on deep-sea species at levels observed prior to that Regulation (1998 to 2000). In addition, the yearly overall maximum effort in terms of kilowatt-days has been fixed by annual decisions emanating from the December regulation on TACs & Quotas in order to comply with NEAFC provisions regarding the effort reduction policy within the Regulated area in international waters. The Commission presented an evaluation report on the management of deep sea fish stocks to the Council and the Parliament in 2007 (COM(2007)30). In this report, the Commission concluded on a number of steps to be taken in order to improve the access regime. In 2008 the European Parliament adopted a report that reflects on the access regime and the Commission's view on future development (A6-0103/2008). The Commission plans to propose amendments to the access regime in 2009, after stocktaking of Member State and stakeholder views and of scientific advice.

Detailed Request

STECF is asked to

1) in view of the management objective to target effort measures towards specific fisheries:

a) Related to maps[2] that show by ICES statistical rectangle the distribution of catch volumes (species in order of importance) and related effort volumes (per gear category): Define the deep-sea fisheries by analysing per year, including trends observed, at Community and Member State level, gears and related effort in kW-days catching in distinct areas the species listed in Annex I and II of Regulation 2347/2002. Analyse the catch composition observed by gear category including trends over recent years, catch per unit effort and, where possible, the likely level of discards. Comment on any fishing practices that can be identified as influencing the differences in catch composition from haul to haul. Can the species be grouped into target species and by-catch species in each fishery?

b) Advise on possible improvements to

the definition of data that Member States are obliged to send to the Commission in accordance with Article 9 of Regulation 2347/2002, with a view to improving the definition of deep-sea fisheries as undertaken under litera a);

other provisions of Regulation 2347/2202, in particular the one on the on-board observer coverage (Article 8).

2) in view of the management objective to define most relevant species of the deep-sea fisheries, to target effort measures towards specific fisheries, and to define the measures according to the conservation needs of the species,

2 As of end of March, it is planned that JRC will produce those maps prior to meeting.

Review the species lists of Annex I and II of Regulation 2347/2002 according to the following criteria:

a) In the fisheries identified, are there any other deep-sea species being caught in quantities that would merit their inclusion in Annex I or II? For example:*Physis spp.*; *Alepocephalus bairdii*.

b) Are any of the species listed in the annexes often or predominantly caught in fisheries that target non-deep sea species? If so, should they continue to be included in the list of deep-sea species in Annexes I or II?

c) Could the species listed in Annex I and II be grouped into:

species that based on their life history characteristics are particularly vulnerable to fishing and should therefore not be exploited

species that based on their life history characteristics are less vulnerable to fishing and could thus be sustainably exploited.

d) Following from the exercise described under point 1), could the species listed in Annex I and II be grouped according to target/by-catch species combining all fisheries observed?

3) See point 2 a) of the Western Waters part of the ToR. This point concerns deep sea and Western Waters regime likewise.

B) Western Waters access regime

Background

The Commission is held to review the Western Waters access regime in force since 2004, based on Regulations 1954/2003 and 1415/2004. The objective of the Western Waters access regime is to avoid an increase in fishing effort compared to recent levels (1998-2002), defined as overall effort directed towards demersal stocks, and effort on some benthic fisheries. A separate constraint on maximum effort levels within a special conservation zone, the so-called "Irish Box", is designed to accompany the restrictions on the use of demersal gears in that area, in view of the area's importance as a spawning and nursery ground, in particular for hake.

Detailed request

STECF is asked to

1) Concerning the functioning of the WW effort regime:

a) Aggregate at Member State and Community level fishing effort per year in kW-days and GT-days by demersal gear types, by vessel length >10m and >15m, and by ICES areas V to X and CECAF divisions 34.1.1, 34.1.2, 34.2.0; provide a description of yearly effort trends since 2000 per area, gear and main species composition, compare these aggregated data with effort ceilings established in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

b) Aggregate at Member State and Community level fishing effort directed towards scallops per year in kW-days and GT-days by gears and by vessel length >10m and >15m by ICES areas V to X and CECAF divisions 34.1.1, 34.1.2, 34.2.0; provide a description of yearly effort trends since 2000 per area and gear, compare these aggregated data with effort ceilings established in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

c) Aggregate at Member State and Community level fishing effort directed towards edible crab and spider crab per year in kW-days and GT-days by gears and by vessel length >10m and >15m by ICES areas V to X and CECAF divisions 34.1.1, 34.1.2, 34.2.0; provide a description of yearly effort trends since 2000 per area and gear, compare these aggregated data with effort ceilings in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

d) Aggregate at Member State and Community level fishing effort per year in kW-days and GT-days by vessel length >10m and >15m and by

demersal gear types,

by gears catching scallops,

and by gears catching edible crab as well as spider crab,

in the Biologically Sensitive Area as defined in Article 6 of Regulation 1954/2003; provide a description of effort trends since 2000 in this area, compare these aggregated data with effort ceilings established in Regulation 1415/2004 and with Member State data submissions to the Commission under Regulation 2104/2004.

2) Concerning the definition of the WW effort regime:

a) Assess the definition of the WW effort restrictions in the context of overlapping or neighbouring effort regimes, in particular the deep sea access regime (Regulation 2347/2002), the cod plan (Regulation 1342/2008), the Southern hake plan (Regulation 2166/2005) and the Western Channel sole plan (Regulation 509/2007). In particular:

The present Western Waters regime aims at excluding fisheries directed towards deep-sea species. Discuss possible alternative criteria for the delimitation of both regimes (e.g. according to the depth of the waters in which the vessels operate or according to catch composition) or specific rules for addressing vessels that catch both deep sea species and other species;

Discuss possible redefinition of the scope of Western Waters effort restrictions in areas where fishing effort is restricted by the cod plan (VI a, V b, VII a);

b) Evaluate the precision of the definition in Regulations 1954/2003 and 1415/2004 of "fishing effort" in terms of area, time, and fishing pattern;

c) Evaluate whether fishing effort defined in GT-days or in kW-days is better correlated to the fishing mortality on edible crab and spider crab;

d) Assess possible reasons for excluding gears directed towards pelagic fisheries from the regime, in particular whether effort restrictions for pelagic fisheries in those areas might be less correlated to fishing mortalities than effort restrictions for demersal fisheries.

3) Concerning the possible evolution of the WW effort regime

a) Describe in a standardised way at Community level the characteristics of the demersal fisheries by main effort (by overall amount in kW-days and by gear category according to DCR) and main quota species (by catch volume), per ICES division in areas V to X and in CECAF 34.1.1, 34.1.2, 34.2.0, for the years 2005 to 2008;

b) Assess the relationship between the development of demersal effort in these areas and the development of TACs of main demersal species abundant in those areas, for the years 2005 to 2008.

4. PARTICIPANTS

In 2007, STECF and its subgroups adopted a new working style with stakeholder involvement as observers to improve transparency in scientific evaluations. Observers were invited to comment on the TORs and related analyses and results. The stakeholder involvement was in accordance with the protocol for STECF meetings observers, Brussels, 20 September 2006.

Experience during the 2009 meeting again showed that representatives of stakeholder organisations (first meeting in Lisbon) were very interested in the evaluation of the basic information regarding the trends in fleet specific information and specific data deficiencies. Contributions took the form of constructive questions and clarifying comments mainly focussed on recent experience of fishing activity by different fleets.

Participants of the 3 meetings are grouped by STECF members, invited experts, JRC experts, stakeholder, and EU-Commission representatives and are listed in Appendix 1.

Note that for the second meeting, regular SGMOS participation was augmented by experts in Deep Sea biology who made valuable contributions in areas beyond the expertise normally present.

5. REPORT NOTATIONS

To identify the categories assessed for effort and catch this working group adopts terminology that matches as closely as possible that used in the Regulations concerning fishing effort. In previous reports the notation was developed in relation to Annex II of the fishing opportunities regulation, (Council Reg. (EC) No. 40/2008). With the revision of the cod recovery plan and the development of a revised effort regime,(**Annex I** to **R(EC) No 1342/2008)** a new notation is required for those parts of the report dealing with cod issues based around a simplified list of gear categories. This report represents a transition between the old system and the revised one and SGMOS were requested to provide (in some cases) information in the two different formats. Historically the original system became known as Annex IIA and we continue that nomenclature here. The new system has been labelled 'cod plan' and we have tried to adopt that here in the presentation of effort by cod plan fleets.

Annex IIA categorises fleet effort in terms of a "gear group" (specified in point 4 of the annex) and whether the fleet using a given gear group has qualified for any "special condition", (specified in point 8.3 of the Annex IIA). The days at sea allowances prescribed for these combinations are presented in "Table 1" of the regulation's annex. The table specifies effort limits for various fishing areas, the areas being defined in point 2 of the annex.

As convenient shorthand this report uses the term 'derogation' to refer to any combination of gear group and special condition. So for example, a vessel using a trawl gear of mesh size between 70 and 89mm but which qualifies for no special condition belongs to derogation "4.a.ii none", (point 4 (a) sub bullet point (ii) of Annex IIA). A vessel using a trawl gear of the same mesh size but where a vessel has a catch composition with less than 5% cod from 2002 would belong to derogation "4.a.ii IIA8c", (the 'IIA' distinguishes a special condition from Annex IIA as opposed to Annex IIB or Annex IIC). The notation for

regulated areas can also be added. If a vessel using the gear “4.a.ii IIA8c” fishes in the Kattegat this can be labelled as effort in the category “4.a.ii IIA8c 2a”, (the 2a refers to the area defined under point 2 (a) of Annex IIA). Table 5.1 lists notation for all derogations associated with Annex IIA and links it to descriptions of the fishing gears and special conditions as specified in Annex IIA. Table 5.2 lists and describes the fishing area definitions.

Similar notation can be devised for effort categories specified under Annexes IIB and IIC of Regulation (EC) No. 40/2008. Under Annex IIB gear groups are defined under point 3 and special conditions under point 7.2. In 2007 gear group definitions were made for bottom trawls, gill nets and bottom long lines. These groupings were merged in the 2008 legislation. The working group considered maintaining the categories as defined in 2007 was important in terms of maximising the clarity of information from results. Therefore gear groupings have been kept consistent with those from the Annex IIB in 2007 (found in regulation (EC) No. 41/2007). Table 5.3 links notation with gear group and special conditions. So, for example, a vessel using a gill net of mesh size ≥ 60mm and conforming to the hake catch composition rules would belong to derogation “3.b.i IIB72a”.

Under Annex IIC gear groups are defined under point 3 and special conditions under point 7. Table 5.4 links notation with gear group and special conditions. So, for example, a vessel using a static net of mesh size less than 220mm belongs to derogation “3.b”.

Table. 5.1 Gear group and special conditions of Annex IIA, Reg. (EC) No. 40/2008.

Derogation			Mesh size range		Special Condition							
					Catch composition track record			Technical gear or other measure				
Gear group Point 4	Special condition Point 8	Gear	mesh size mm From	mesh size To mm	< 5 % cod	> 60 % plaice	< 5 % of cod & < 5% sole & < 5% plaice	escape window : App 1	escape window : App 2	escape window : App 3	GRID: App 2 to Annex III	other
4.a.i		TD	16	31								
4.a.ii		TD	70	89								
4.a.iii		TD	90	99								
4.a.iv		TD	100	119								
4.a.v		TD	120	inf								
4.a.iii	8.(a)	TD	90	99				120				
4.a.iv	8.(a)	TD	100	119				120				
4.a.v	8.(a)	TD	120	inf				120				
4.a.ii	8.(b)	TD	70	89							x	
4.a.v	8.(j)	TD	120	inf					140			
4.a.v	8.(h)	TD	120	inf								(#) 1
4.a.v	8.(hj)	TD	120	inf					140			(#) 1
4.a.iii	8.(l)	TD	90	99						95		
4.a.ii	8.(c)	TD	70	89	x							
4.a.iv	8.(c)	TD	100	119	x							
4.a.v	8.(c)	TD	120	inf	x							
4.a.iv	8.(k)	TD	100	119	x	x						
4.a.v	8.(k)	TD	120	inf	x	x						
4.a.ii	8.(d)	TD	70	89			x					
4.a.iii	8.(d)	TD	90	99			x					
4.a.iv	8.(d)	TD	100	119			x					
4.a.v	8.(d)	TD	120	inf			x					
4.b.i		BT	80	89								
4.b.ii		BT	90	99								
4.b.iii		BT	100	119								
4.b.iv		BT	120	inf								
4.b.iii	8.(c)	BT	100	119	x							
4.b.iv	8.(c)	BT	120	inf	x							
4.b.iv	8.(e)	BT	120	inf	x	x						
4.b.iii	8.(i)	BT	100	119	x[4]							
4.b.iv	8.(i)	BT	120	inf	x[4]							
4.c.i		GE	0	109								
4.c.ii		GE	110	149								
4.c.iii		GE	150	219								
4.c.iv		GE	220	inf								
4.c.iv[5]	8.(f)	GE	220	inf	x							(#) 2
4.d		TR	0	inf								
4.d	8.(g)	TR	0	109								(#) 3
4.e		LL	-	-								

TD = Trawl or Danish seine or 'similar gears' (dredges are included under similar gears)
BT = Beam Trawl
GE = Gill net or entangling net
TR = Trammel net
LL = Long lines
(#) 1: automatic suspension of licences.
(#) 2: >5% turbot & lumpsucker.
(#) 3 absent from port < 24 h.
4. 2008 logbook.
5. Table 1 of Annex IIA refers to 4.c.iii 8.3(f) but only gear with mesh size ≥ 220 mm is eligible for this derogation.

Table. 5.2 Regulated area notation used in this report. For full definitions of these areas refer to Annex IIA, Regulation (EC) No. 40/2008.

Regulated Area	Area name or ICES divisions
2a	Kattegat
2b1	Skaggerak
2b2	ICES sub areas II (EC waters) & IV
2b3	ICES division VIId
2b	Regulated areas 2b1, 2b2 & 2b3 combined
2c	ICES division VIIa
2d	ICES division VIa

Table. 5.3 Gear group and special conditions of Annex IIB, Reg. (EC) No. 40/2008

Derogation			Mesh size range		Special Condition	
Gear group Point 3 [1]	Special condition Point 7 [2]	Gear	mesh size mm From	mesh size To mm	Hake landings < 5 tonnes in each of the years 2001, 2002 and 2003	Nephrops landings < 2.5 tonnes in each of the years 2001, 2002 and 2003
3.a		TD	32	inf		
3.b		G	60	inf		
3.c		LL	-	-		
3.a.i	7.2.(a) & 7.2.(b)	TD	32	inf	x	x
3.b.i	7.2.(a) & 7.2.(b)	G	60	inf	x	x
3.c	7.2.(a) & 7.2.(b)	LL	-	-	x	x

TD = Trawl or Danish seine or 'similar gears' (dredges are included under similar gears)
G = Gill net
LL = Long lines
1. Gear groupings correspond to Annex IIB found in Reg (EC) No. 41/2007.
Special conditions 7.2(a) and 7.2(b) can not be complied with independently.

Table. 5.4 Gear group and special conditions of Annex IIC, Reg. (EC) No. 40/2008. Note that no special conditions are currently in operation under Annex IIC.

Derogation			Mesh size range		Special Condition
Gear group Point 3	Special condition Point 7	Gear	mesh size mm From	mesh size To mm	
3.a		BT	80	inf	none
3.b		GE & TR	0	219	none

BT = Beam Trawl
GE = Gill net or entangling net
TR = Trammel net

Under the revised 'cod plan' the following gear groupings are set out in Annex I of the Regulation together with areas in which they apply. Throughout the report reference is made to gears such as TR1, TR2 etc. Under the revised scheme Member States are allocated 'effort pots' in KW*days for each category which can then be managed nationally. EU allocated 'days at sea' per vessel are no longer applicable.

ANNEX I
Effort groups are defined by one of the gear groupings set out in point 1 and one of the geographical areas set out in point 2.

1. Gear groupings

(a) Bottom trawls and seines (OTB, OTT, PTB, SDN, SSC, SPR) of mesh:
TR1 equal to or larger than 100 mm,
TR2 equal to or larger than 70 mm and less than 100 mm,
TR3 equal to or larger than 16 mm and less than 32 mm;

(b) Beam trawls (TBB) of mesh:
BT1 equal to or larger than 120 mm
BT2 equal to or larger than 80 mm and less than 120 mm;

(c) Gill nets, entangling nets (GN);

(d) Trammel nets (GT);

(e) Longlines (LL).

2. Groupings of geographical areas:
For the purposes of this Annex, the following geographical groupings shall apply:
(a) Kattegat;
(b) (i) Skagerrak; (ii) that part of ICES zone IIIa not covered by the Skagerrak and the Kattegat;
ICES zone IV and EC waters of ICES zone IIa;
(iii) ICES zone VIId;
(c) ICES zone VIIa;
(d) ICES zone VIa.

5.1. Data call

On 16th March 2009 the Commission DG Mare invited the relevant institutes to electronically submit fleet specific catch and effort data no later than 17th April 2009. A corrigendum was issued on 19th March 2009 (s. Appendix 2).

The call was based on the previous Annexes and also the new cod recovery plan Annex.

Given the repeated experience of late and inconsistent data reports received from Member States, STECF-SGRST reiterates its recommendation that the task of European fleet specific data compilations of nominal effort and catch continues to be improved and further institutionalised and conducted on a routine basis. STECF-SGRST further recommends that it would advantageous to align more closely the categories of the effort regulation with recognised metiers operating in the different areas covered by the Annexes. To some extent there has been a move towards the metier based approach set out in the new DCF and further alignment of the regulations would ensure relevant biological data could be collected.

5.2. Data policy, formats and availability

Originally, the catch and effort data base structures used by STECF-SGRST were developed by the ICES Study Group on the Development of Fishery-based Forecasts (ICES CM 2004/ACFM:11, 41 pp.) with few amendments required for the review of fishery regulations. The format of the fleet specific data on catches including discards and effort is given in Appendix 2 of this report. The format has been almost unchanged compared to the data bases compiled during the STECF subgroup meetings dealing with cod recovery or mixed fisheries reviews over the past 3 years except for one new data field introduced in 2006 specifying the fleets' aggregations regarding the special conditions defined in Annexes IIA-C of Council Reg. 41/2007.

5.2.1. Data policy

Experts reported about national data policies of the national fleet specific landings, discards and effort data in support of a continued use of the data by STECF-SGRST but with the required permission for any use by other scientific or non-scientific groups. This implies that national experts need to be contacted for their consent before granting access to the data. However, Denmark and Portugal reserves the right of the deletion of the national data on request.

JRC requests to be informed about applications of data access and their notifications.

5.2.2. Nominal fleet specific effort data 2000-2008

The fleet aggregation according to the derogations (gear group, mesh size and management area) defined in Annexes IIA-C or aggregation according to the revised cod plan is within the competence of the Member States' institutes. While every attempt is made to encourage a consistent approach, some differences between countries due to availability of essential information, different interpretations and/or different expertise to manage the extensive databases is known to occur. A number of Member States invested additional time in improving their data submissions and the overall quality is believed to have improved

STECF-SGMOS notes that assignment of derogations is based on best expert knowledge and data availability, which also reflects cooperation with the national control and enforcement institutions. The assignment of 'cod plan' gears is more straightforward and going forward the quality of data should improve further. The availability of the fleet specific effort data requested is summarised in the following quality control notes (prepared by JRC) and Table 5.2.2.1.

Table 5.2.2.1 Overview on 2000-2008 effort data reports provided by EU member states with and without special conditions laid down in Annexes IIA-C of Council Regulation 40/2008 and 43/2009

Country	According to Annexes IIA-C of Coun. Reg. 40/2008 and 43/2009 effort data 2000-2008
Belgium	review o.k.
Denmark	no specon in the Baltic Sea
Estonia	only years 2006-2008, no specon, no mesh size
Finland	review o.k.
France	few inconsistencies in codifications
Germany	review o.k.
Ireland	review o.k., no <10m boats
Latvia	only Baltic Sea areas
Lithuania	only years 2005-2008, only Baltic Sea
Netherlands	review o.k.
Poland	no consistent data submission
Portugal	many inconsistencies in codifications including specon
Spain	many inconsistencies in codifications including specon
UK England without SCO	review o.k.
UK Scotland	review o.k.
Sweden	review o.k.

List of data deficiencies, inconsistencies and manipulations observed by JRC while uploading data base B of nominal effort

Belgium: o.k., no manipulations, no <10m

Denmark: no special conditions in the Baltic areas., no manipulations.

Estonia: Only years 2006-2008, no special conditions, no mesh size, only >15m. Area code IIa replaced with 2 RFMO. Area code VIb replaced with 6b EU. Area code XII replaced with 12 RFMO.

Finland: o.k., one record pel_trawl 16-31 specon bacoma replaced with none, vessel size categories were made consistent.

France: no rectangle 28E2, vessel length codifications made consistent, gear small_beam replaced with beam, gear n/a replaced with none, mesh size >16 was replaced with none, area codifications made consistent, all mesh size codes of gear none were replaced with none, all specon IIA83g of trammel with mesh size 110-149, 150-219 and >=220 were replaced with none, otter mesh size 60-69 were replaced with 55-69.

Germany: o.k., DREDGE, 70-79, 4 specon IIA83d replace with none, POTS in area 8 replaced with 8a, Area 12 EU, 12 COAST replaced with 12 RFMO.

Ireland: no specon, no under 10, no modifications done

Latvia: o.k., only Baltic areas, longline mesh size 16-31 replaced with mesh size none

Lithuania: only 2005-2008 data, Vessel length categories made consistent, Gear codifications made consistent, mesh size codifications made consist, are code "22-24; 25-28" replaced with "22-24"

Netherlands: o.k., Vessel length categories codifications made consistent, deep sea fisheries identified were added with the specon DEEP.

Poland: Data rejected as they are submitted in an inconsistent format, without any mesh size.

Portugal: Vessel length categories were made consistent, vessels <10m with specon IIb72ab were corrected to no specon, mesh size >=100 was corrected to 100-109, mesh size >=20 was corrected to 10-30, mesh size 30-50 was corrected to 31-49, mesh size >=70 was corrected to 70-79, mesh size >=80 was corrected to 80-89, mesh size >50 was corrected to 50-59, mesh size 35-40 was corrected to 31-49, mesh size 60-79 was corrected to 60-69, mesh size 80-89 was corrected to 80-89, mesh size 8-29 was corrected to 10-39, Pots or pel_seine or trammel or dredge with specon IIb72ab was replaced with none, otter or gill without mesh size with specon IIb72ab was replaced with none, gill with mesh size 50-59 and specon IIb72ab was replaced to none, gill with mesh size 31-49, and specon IIb72ab was replaced to none, lots of additional areas reported which were not requested.

Spain: no area BSA , no rectangle 28E2 and no DEEP fleet aggregations provided, area codes are changed in accordance to the codifications. The zone “EU” was attached to all Divisions where necessary, i.e. 6B EU, 7C EU, 7J EU and 7K EU. Special conditions coded as “N/A”, “no specon” and blanks were replaced with none. Special conditions are only specified for Annex IIB (Div. 8c and 9a), not for Annex IIA. “specon” was replaced with IIB72ab. Mesh size “N/A” and blanks were replace with none. All otter none or 16-31 or <32 specon IIB72ab was replaced with none. All gill none or 31-49 or 50-59 specon IIB72ab was replaced with none. All gears none, pel_seine, pots and trammel assigned IIB72ab were replaced with none. All gears none were assigned mesh size none.

UK Scotland: o.k., Beam mesh size 80-89, 90-99 and IIA83i specon was replaced with none, gill with mesh size <10 was replaced with none. Records BSA with special condition deep and other unknown areas, will all be ignored anyway.

UK without Scotland: o.k., trammel no mesh size in area 4 specon IIA83g was replaced to none. Some other areas records will be ignored in the analyses.

Sweden: Mesh size >220 was replaced with >=220, mesh size of gear none was replaced with none.

Relative changes in the effort figures submitted in 2009 to those submitted in 2008 are provided in each of the effort sections relating to the various areas covered by this report. The following notes provide some Member State descriptions of data submitted to process and any changes which explain differences in effort between the 2009 submission and earlier submissions. Note that not all countries were present at the meetings and some did not provide detailed descriptions

Belgium: Belgium provided effort data (kw*days at sea) for 2003-2008 by rectangle and by quarter, for all relevant areas where the Belgian fleets are operational. Since 2003 effort (and landings) are split proportionally over the rectangles as effort became available by rectangle from logbook data. As Belgium does not have trip-by-trip information on the true mesh size for its fleets for 2003-2006, Belgium (as well as other countries) agreed to assume certain mesh sizes for its beam trawler fleets. Beamers operating in area VIIIa,b were assumed to use a 70-79 mm mesh size as this is the minimum legal mesh size in that area for beamers. For the North Sea, the trips were split according to the rectangles reported in the logbooks, and mesh sizes were allocated in line with Council Regulation (EC) N° 2056/2001. This regulation stipulates that beam trawlers are prohibited to use less

than 120 mm in ICES Division IV to the north of 56° 00' N. Therefore all beam trawl information from this part of ICES Division IV was accounted against an assumed >120mm mesh size. The same regulation also stipulates that within the rectangle with coordinates along the east coast of the UK between 55° 00' N and 56° 00' N and the points 55° 00' N – 05° 00' E and 56° 00' N – 05° 00' E, beam trawlers can use 100 to 119 mm mesh size. Here also it was assumed that the mesh size used by the Belgian Beam trawl fleet was 100-119 mm. For the rest of ICES Division IV (the southern part) a mesh size of 80-89 mm was assumed for the beam trawlers. Apart from these assumed mesh size which are based on rectangle information from logbooks, it was also assumed that the shrimp fishery used a mesh size of 16-31 mm. The mesh size of the beam trawl fleets in the other area's was assumed to be 80-89 mm. Since 2007 mesh sizes used by beam trawls operating in different areas have been based on the true mesh sizes used on each trip.

The effort calculated in last year's report as kW*fishing hours have been corrected to kW*days at sea taking into account the days spent in an area as a fraction of a day multiplied by the kW of the vessel.

Denmark: The National Institute for Aquatic Resources in Denmark (DTU Aqua) had provided all relevant effort data for 2000-2008 for the areas: Baltic, North Sea, Skagerrak, Kattegat and Coastal and International waters in Northern Shelf in the required data format using the STECF-SGMOS guidelines, for the STECF meetings 25-30 May and 13-17 July. These data were built on the basis of a major revision of the data extraction program compared to the data delivered up to 2008. These revisions related to both a continuous improvement of the data available in the DFAD database maintained by DTU Aqua (e.g. inclusion of departure time and arrival time), as well as corrections of a number of factors considered as not fully consistent. The main revisions included:

- in the case of trips crossing several areas, the allocation of the trip to one single area was revised from area of the first operation to the area with the highest value,
- the identification of a trip was revised from vessel_ID and landings date to logbook sheet number, as traditionally used by the Danish Directorate for Fisheries DDF (Ministry of Food, Agriculture and Fisheries)
- Some corrections were made to the allocation of some gears in regulated and non regulated gear categories, for example with regards to some pelagic trawls and pots categories.
- Revision of the effort calculation. The initial method used the number of days between first fishing day to landings day, but was revised to using numbers of hours from departure to arrival rounded up to number of days.
- The allocation of trips occurring in area 2A was corrected in order to distinguish between areas 2 EU, 2 COAST and 2 RFMO.
- Finally, the checking macros developed by the STECF Working Group were successfully applied and the observed remaining inconsistencies between respective gears and specific conditions were corrected.

All these corrections are considered as major improvements in the quality of Danish data compared to previous years. But as a consequence, the resulting Danish effort estimates were in average significantly lower than the figures provided up to 2008.

This has created a major issue, since the effort estimates previously provided to the STECF WG were used for the calculation of the baseline for the 2009 effort regulation. In consequence, the comparison of the Danish data provided to STECF in 2009 with the

effort regulation baseline would lead to an incorrect perception of actual trends in the Danish effort and of the actual implementation of the effort management plan.

This issue was acknowledged by the Danish Directorate for Fisheries. Because of the significant changes in data the current revision has implied, the DFF could not yet certify the validity of the Danish data with regards to the effort regulation. Differences between the original data provided to the STECF-SGMOS and the official effort statistic has been found. A revised submission of the Danish data was supplied in November and has been incorporated in the tables of this report and used by the Commission in its management.

France: For France effort data from 2000 to 2008 in kW and gross tonnage days at sea were updated in the mixed fishery database after the meeting of June. These data give the number of vessels concerned in a defined area for each fishery for all gears with all mesh size ranges.

*The effort calculated in last year's report as kw*fishing hours have been corrected to kw*days at sea according to the specifications in Council Regulation (EC) N° 43/2009.*

But it appears to be significant differences between the two data sets which could be explain as follow :
Between submissions, the French national data base was updated and some changes were made, as removals of duplicate records (mainly for gillnets and trammel nets), updates of referential (vessels, mesh size). These corrections can explain the overestimation of catches and effort data computed in the first data set.

Given the incapacity to define the route of a fishing boat from the entry in the regulated area to the fishing ground, the present effort calculation is using numbers of fishing hours divided by 24 in a regulated area rounded up to number of days. This may lead to an underestimation of the fishing effort for some fleets. Only fishing trips targeting regulated species were taken into account.

Concerning data quality, data have been compiled from logbook recorded in the French national database. Data used are not completely exhaustive but the data quality has been improved since 2000. All data were provided for all area concerned by the cod recovery plan but they did not take into account limits defining waters under the sovereignty or jurisdiction of Member States as laid down in article 2a of the Amendments to Regulation (EC) No 423/2004 about geographical definition.

The special conditions have been calculated thanks to an algorithm taking into account the specific composition for each trip.

A reference table have been used to create the relationship between the mesh size recorded into the logbook and the mesh size range defined into the mixed fisheries database. When this information is missing, the missing value '-1' has been used.

Note that the French data were revised and resubmitted early in December 2009 – these changes have been incorporated in this report . It is understood further submissions were made to the Commission – these have not been incorporated here and so a discrepancy is likely.

Germany: Germany provided fleet specific effort data for 2000-2008 in the requested formats derived from official logbook data bases covering all vessels ≥10m. In addition to the usual nominal effort data in kW*days at sea, the requested effort data are also presented in the units of GT*days at sea and maximum number of vessels observed active in the defined derogations. The latest data submission covers the areas defined in Annex

IIA, i.e. Skagerrak, Kattegat, North Sea including the southern part of Division II in the EU-Zone and ICES Divisions VI and Va and Vb. There were no demersal fisheries (mesh sizes ≥70mm) conducted in the Eastern Channel, the Irish Sea or the southern Divisions. The data consider the aggregation by quarter, area, gear, mesh size, and existing derogations including special conditions of 8.1.a, 8.1.c, 8.1.d, 8.1.e and 8.1.f. During 2000-2007, the fleets did not apply or have been eligible for other special conditions as confirmed by personal communication with the control and enforcement institute (BLE).

Ireland: Ireland provided fleet specific effort data for 2000-2008 in the requested formats, derived from official logbook databases for vessels ≥10 meters in length. Vessels less than 10m are not required to complete logbooks, and therefore no effort is available for these vessels. Data has been provided in nominal effort as kW*days-at-sea, effective effort in kW*hours fishing, GT*days at sea and vessel numbers within each category. The data covers all areas requested in the STECF-SGMOS data call in which the Irish fleet is active. Effort data conforms to the requested aggregation, of quarter, area, gear, mesh size, and vessel length. Mesh size information was only available from 2003 onwards. Days-at-sea effort for 2000-2002 is presented as a calculated proxy, obtained from the average ratio of operational fishing days to days at sea by gear.

Revisions have been made to the 2003-2007 data provided to STECF-SGRST in 2008. These revisions result from the implementation of methodology guidelines for construction of days at sea data, provided by the Joint Research Council at a meeting held by the Commission in February 2009. This methodology was applied to the Irish logbook data, using trip departure, operation, and landing dates to determine activities whilst away from port. Only one Gear and area combination is applied to any one vessel day. The gear and area during a trip were assumed to be known only on days where fishing operations occur. Gear and area are allocated according to daily dominant fishing activity and area. Non-fishing days at sea (inactive days away from port) during a trip have been inferred using the guidelines provided by the JRC. Gear and area of non-fishing days from departing port to the first fishing operation date are assumed to be that of the first operation. Gear and area of non-fishing days between days of fishing are assumed to be those of the later operation date. Non-fishing days from the last operation day to returning to port are assumed to be the same as the last operation.

The data call requested detailed area information (e.g. coast, RFMO, EU). It was not possible to aggregate data at this level of spatial detail. Detailed areas were assumed. Where an EU category existed within an area, all data from that area was categorised as EU, with the exception of ICES division X assumed to be RFMO. Those ICES divisions without an EU category where assumed as 1 coast, 2 coast, and 12 RFMO.

Effort data was also provided by BSA and ICES rectangle 28E2, labelled as such within the area field. It should be noted that effort from these areas are also contained within their relevant ICES area. Further more, deepwater effort has been provided, classified as “Deep” within the special conditions field. Deepwater effort was identified as those vessels carrying out individual trips retaining 100kg or more of aggregated deepwater species (Annex I of Council Regulation 2347/2002), regardless of permit status. In addition, the group agreed to include trips where the aggregated Annex I species represented greater than 35% of the total trip landings as deepwater. This effort is a duplication of effort within the relevant areas.

No special conditions were allocated to Irish fleet categories, as no Irish vessel applied for the special conditions relating to Annex IIa (Council Regulation 40/2008) since the special conditions were introduced. Those special conditions applied for by Irish vessels relate to the allocation of additional days at sea for enhanced observer coverage.

Netherlands: The Netherlands attended the first of the meetings of STECF-SGRST on the assessment of fishing effort regime and attended in 2008 but was not preent in 2009. The Netherlands provided a completely reworked data set based on logbook information which was considered more reliable than the previous submissions based on VMS

Portugal: Portugal provided effort data for 2004-2008 (Kw*days and GT*days) by quarter and year in the required data format for the areas 8c and 9a where the Portuguese fleet operates. Numbers of vessels were not provided. The information refers to all fishing vessels with overall length ≥10 m, licensed for the period 2004-2008. The gear categories and mesh size provided were in agreement with the data call and Annex IIB, gillnet with mesh size >60mm, otter trawl with mesh size >32mm and bottom longlines. However, no mesh size information could be provided for significant parts of the fleets deploying the gears defined. In the case of trawl, the unknown mesh size means that although the mesh size is greater than 32 mm, it is not possible to specify according to the categories defined by this working group, but their effort can be taken into account. The same is not applicable to the gillnets with unknown mesh size. This resulted in a high proportion of gillnet effort which could not be assigned to the defined derogations and therefore were grouped as unknown (none). Special conditions have been provided for a mixed passive gear category ("PGP"), which includes vessels operating with more than one gear. Although this group includes unregulated gears (trammel nets, traps, dredges, etc.) and regulated gears (longlines and gillnets) affected by the special conditions, it was not possible to consider the gear specific effort in the evaluation and they were added to "none". The trawl fleet was further allocated to two fisheries, targeting crustaceans operating in area 9a or targeting demersal fish operating in areas 8c and 9a. Effort was computed differently for those vessels covered by the Southern Hake and *Nephrops* recovery plan which have effort limitations and other vessels. The former were computed based on logbooks information and the last based on sales notes, assuming each sale represents one fishing day.

Spain: Spain provided only limited information to the meeting in 2009 and despite repeated attempts to seek clarification on aspects of the data has not supplied satisfactory answers.

Sweden: Sweden provided fleet specific effort data for 2000-2008 in the requested formats derived from official logbook data bases covering all vessel ≥10m. In addition to the usual nominal effort data in kW*days at sea, the requested effort data were also available in the units of GT*days at sea and number of vessels. The latest data submission covers the areas defined in Annex IIA, i.e. Skagerrak, Kattegat, North Sea. The data consider the aggregation by quarter, area, gear, mesh size, and existing derogations including special conditions of 8.3.a, 8.3.b.

For vessels <10m Sweden provided total nominal effort usual nominal effort data in kW*days at sea, the requested effort data are also presented in the units of GT*days at sea in areas defined in Annex IIA, i.e. Skagerrak, Kattegat, North Sea. The data consider the aggregation by quarter, area, gear, mesh size, and existing derogations including special conditions of 8.3.a, 8.3.b.

The main problem in using Swedish data analysing the use of technical regulations according to Annex 11a has been the mismatch in the introduction of a new technical measure in annex IIA and the national coding of the gear in the logbook. This has meant that the use of the special condition IIa8.3a has been assessed by other data sources than the logbook. During 2007, gear code for the 8.3 a was introduced which allowed a comparence of the data sources for 2005, and 2006.the result from this comparison showed that the other data source and the loggbok matched satisfactory. For special

condition IIa8.3b there has been no such mismatch the introduction of the gear and the gear cod was introduced simultaneously.

UK England (England, Wales & Northern Ireland): provided effort data for 2000-2008. Details of the approach used to provide data is given in the Annex at the end of this note. The submission in 2009 involved revision of data. Work has been carried out to improve the linkage of activity to special conditions in light of contact with the Commission and the JRC to deal with inconsistencies and differences in interpretation of the special conditions, for example, instances where the special condition had been interpreted differently by the UK as well as instances where errors in the allocation of effort to the special conditions had occurred. In addition, the various quality initiatives introduced by the JRC in the central processing of the date reported to improve the quality of the data have been worked back to be included in the initial processing stages in the UK – for example, instances of data oddities (e.g. mesh sizes being reported for gears where meshes are not applicable such as long lines) are now detected and treated as appropriate in the compilation of data prior to submission.

In addition to the above, within the UK there have been changes to the core data source used to switch from a dedicated reference databases compiled from an aggregation of data from separate databases on activity held by the different fisheries administrations in the UK to using the IFISH UK database introduced as part of continuing development of combined data systems within the UK. This move has led to some slight changes in the data, primarily as a result of a change in the linkage to the vessel details for engine power and gross tonnage. These changes have been separately assessed and are of a minor overall impact.

UK (Scotland): Scotland provided effort data for the years 2000-2008. Effort is provided in terms of kW*days at sea (kWdays), gross tonnage*days at sea (GTdays) and number of vessels per category. Number of vessels and kWdays data are provided for all years. Effort in terms of Gross Tonnage*days at sea is provided for the years 2003-2007 consistent with the completion of EU wide vessel gross tonnage recalibration. As for catch data, effort data conforms to the aggregation by quarter, area, gear and mesh size as set out in the data request. Fisheries are defined using the combination of gear, mesh size and fishing area as specified in the STECF data requirement. Fisheries were further split according to SGDFF format area definitions (4, 7d etc). Special conditions (as per Appendix 5 of the data requirements document) were applied where possible. The databases available to UK (Scotland) do not provide information on whether a vessel has adopted one of the technical measures relevant to some special conditions or on special conditions requiring in-season management. Therefore, special condition designations have only been entered for certain fisheries. These include fisheries that can be built up from vessels active in 2002 and whose track record complied with one of the species composition rules set out in Annex IIA of regulation 40/2008. That is, all records of vessels fishing within waters subject to the effort rules of Annex IIA were grouped according to unique combination of vessel, gear type and mesh size range as used by Scottish government marine directorate (this combines gear groups 4.a.ii and 4.a.iii; also 4.a.iv and 4.a.v). For data for 2002 the annual catch composition of these grouped records were tested for compliance with the special condition requirements and special condition codes assigned to vessels if appropriate. In terms of area, all activity of a given vessel in 2002 was aggregated. For other years vessel, gear and mesh size combinations received the same special condition status as applied in 2002 (assuming the same combination existed

in 2002). Also special condition 8.1(i) was applied to vessels using beam trawls with mesh size >= 100mm if they had used beam trawls with mesh < 100mm in 2003, 2004, 2005 or 2006 and special condition 8.1(g) for vessels using trammel nets with mesh size < 110mm and absent from port no more than 24 hours. After assignment of special condition status vessels were grouped into fisheries. If a vessel fished in more than one area or used more than one type of gear or mesh size it is possible for it to contribute to more than one fishery grouping and to have qualified for special condition status in one or more fisheries but not in others. The number of vessels associated with each gear, mesh size, SGDFF area and special condition status has also been provided. Any vessel assigned to more than one fishery grouping will be counted in the number of vessels contributing to each grouping, i.e. there is the possibility of multiple counting of vessels. Existing special conditions were assigned exclusively i.e. there is no repetition of records to accommodate assigning more than one special condition code. So for example if a fishery qualified for both special condition code IIA81c and IIA81d it would be assigned IIA81d on the grounds the latter allows a greater number of days at sea. Catch assigned to statistical squares west of the line defined in section 2.2 of Annex IIA have not been excluded from calculations determining 2002 track record. The special condition defined under Annex IIB was found not to be relevant to Scottish vessels. No recorded landings from the divisions regulated under Annex IIB are present in any of the years 2000-2008. Data is compiled on a basis comparable with the information from the rest of the UK. Effort on voyages using more than one mesh size is allocated according to log book data. This affects the information for effort in the years prior to 2003, when vessels were allowed to use different mesh sizes within the same voyage. Similarly, effort on voyages fishing in more than one rectangle is allocated according to logbook data. Starting with the 2007 STECF meetings Scottish fleet effort for the other gears (dredges, pelagic seines, pots) is provided directly by UK (Scotland) on a comparable basis with that provided previously by UK (England).

5.2.3. Effective fleet specific effort data by rectangle 2003-2008

In order to provide spatial distributions patterns of fishing effort, SGMOS continued to use the data base structure agreed previously to collate data on effective effort in units of trawled hours by statistical rectangle for mobile gears only. The data have been made available from the national logbooks and aggregated to the regulated gear groups (derogations) defined in Annexes IIA, IIB and IIC of Council Reg. 40/2008 and the cod plan 43/2009.

The following notes summarise data quality control issues observed by JRC and Table 5.2.3.1 provides an overview of the quality of the submitted data

Table 5.2.3.1 Overview on 2003-2008 effective effort data reports (trawled hours by derogation and rectangle) provided by EU member states with and without special conditions laid down in Annexes IIA-C of Council Regulation 40/2008 and 43/2009

Country	According to Annexes IIA-C of Coun. Reg. 40/2008 and 43/2009 effort data 2003-2008
Belgium	review o.k.
Denmark	no specon in the Baltic Sea
Estonia	only year 2007, no specon, no mesh size, only >15m
Finland	review o.k.
France	few inconsistencies in codifications
Germany	review o.k.
Ireland	review o.k.
Latvia	only Baltic Sea areas
Lithuania	no consistent data submission
Netherlands	review o.k.
Poland	no consistent data submission
Portugal	many inconsistencies in codifications including specon
Spain	no consistent data submission
UK England without SCO	review o.k.
UK Scotland	review o.k.
Sweden	no Baltic Sea areas

List of data deficiencies, inconsistencies and manipulations observed by JRC while uploading data base C of effective effort by rectangle

Belgium: o.k., no manipulations.

Denmark: o.k., no special conditions in the Baltic areas., no manipulations.

Estonia: Only Baltic, only year 2007, no special conditions, no mesh size, only >15m.

Finland: o.k., one record pel_trawl 16-31 specon bacoma replaced with none, vessel size categories were made consistent, cod specific effort only.

France: o.k., vessel size codifications were corrected, all gears small_beam is corrected to beam, all trammel 110-149, 150-219, >=220 and specon IIA83g were corrected none, all gears none with mesh size were corrected to none, all area 2A was corrected to 2 EU,all area 5b was corrected to 5b EU, all area 6b was corrected to 6b EU,all area 7c was corrected to 7c EU, all area 7j was corrected to 7j EU, all area 7k was corrected to 7k EU, all area 8d was corrected to 8d EU, all area 8e was corrected to 8e EU, otter with mesh size 60-69 was replaced with 55-69, mesh size >16 was replaced with none.

Germany: o.k., DREDGE, 70-79, 4 specon IIA83d replace with none, POTS in area 8 replaced with 8a, Area 12 EU, 12 COAST replaced with 12 RFMO.

Ireland: no specon, no modifications done.

Latvia: o.k., only Baltic areas, longline mesh size 16-31 replaced with mesh size none, additional and not requested area 28.1 will be ignored.

Lithuania: No consistent data.

Netherlands: o.k., vessel length categories codifications made consistent.

Poland: No data submitted.

Portugal: Rectangle codifications made consistent, vessel length categories were made consistent, vessels <10m with specon IIb72ab were corrected to no specon, pots or pel_seine or trammel or dredge with specon IIb72ab was replaced with none, otter or gill without mesh size with specon IIb72ab was replaced with none, mesh size >=100 was corrected to 100-109, mesh size >=20 was corrected to 10-30, mesh size 30-50 was corrected to 31-49, mesh size >=70 was corrected to 70-79, mesh size >=80 was corrected to 80-89, mesh size >50 was corrected to 50-59, mesh size 35-40 was corrected

to 31-49, mesh size 60-79 was corrected to 60-69, mesh size 80-89 was corrected to 80-89, mesh size 8-29 was corrected to 10-30, mesh size 35-40 was corrected to 31-49, gill with mesh size 50-59 and specon IIb72ab was replaced to none, gill with mesh size 31-49 and specon IIb72ab was replaced to none, lots of additional areas reported which were not requested.

Spain: No data submitted.

UK Scotland: o.k., beam mesh size 80-89, 90-99 and IIA83i specon was replaced with none. Records BSA with special condition deep and other unknown areas, will all be ignored anyway.

UK without Scotland: o.k., no rectangle 28E2?, no BSA but DEEP. Some other areas records will be ignored in the analyses.

Sweden: No Baltic data. Mesh size >220 was corrected to >=220, dem_seine with mesh size 0 were replaced to none.

The following notes provide Member State descriptions of the data submitted

Belgium: Belgium provided effort data (hours fished) for 2003-2008 by rectangle and by quarter, for all relevant areas where the Belgian fleets are operational. Since 2003 effort (and landings) is split proportionally over the rectangles as effort became available by rectangle from logbook data. As Belgium does not have trip-by-trip information on the true mesh size for its fleets, Belgium (as well as other countries) agreed to assume certain mesh sizes for its beam trawler fleets. Beamers operating in area VIIIa,b were assumed to use a 70-79 mm mesh size as this is the minimum legal mesh size in that area for beamers. For the North Sea, the trips were split according to the rectangles reported in the logbooks, and mesh sizes were allocated in line with Council Regulation (EC) N° 2056/2001. This regulation stipulates that beam trawlers are prohibited to use less than 120 mm in ICES Division IV to the north of 56° 00' N. Therefore all beam trawl information from this part of ICES Division IV was accounted against an assumed >120mm mesh size. The same regulation also stipulates that within the rectangle with coordinates along the east coast of the UK between 55° 00' N and 56° 00' N and the points 55° 00' N – 05° 00' E and 56° 00' N – 05° 00' E, beam trawlers can use 100 to 119 mm mesh size. Here also it was assumed that the mesh size used by the Belgian Beam trawl fleet was 100-119 mm. For the rest of ICES Division IV (the southern part) a mesh size of 80-89 mm was assumed for the beam trawlers. Apart from these assumed mesh size which are based on rectangle information from logbooks, it was also assumed that the shrimp fishery used a mesh size of 16-31 mm. The mesh size of the beam trawl fleets in the other area's was assumed to be 80-89 mm. The three Belgian gear categories are: beam, otter, and other. For otter and other gear, no assumptions of mesh sizes were made. No special conditions were allocated to any Belgian fleet category until now as no Belgian vessel applied for any special condition in any year since the special conditions have been introduced.

Denmark: Denmark provided effort data by rectangle for 2003-2008, with the same gear and mesh sizes categories and including the same derogations as for nominal effort data (kW*days, see Sec. 5.5.2). Fishing hours are not registered in Danish logbooks, and could not be provided. Notice, that the unit of effort by rectangle is the number of fishing days. This figure is obtained as the sum (by rectangle) of each registered fishing day divided by the number of ICES rectangles visited during that fishing day.

France: France updated effective effort data in kW*days GT*days and numbers of boats for the period 2000-2008. These data were provided by rectangle and by quarter, for all areas in the request format taking into account derogations defined in Annex 2a of the

Council Reg. 40/2008. These data are available from logbooks and give the number of hours trawled for each fleet.

Germany: Germany aggregated the effective effort in units of trawled hours deployed by vessels using demersal towed gears, i.e. beam, otter trawls and seines. As requested, this data submission utilised ICES statistical rectangles.

Ireland: Ireland provided effective effort by ICES statistical rectangle in units of hours trawled for the period 2003-2008, derived from the national logbook database for vessels greater than or equal to 10 meters in length. No spatial effort information is available for vessels less than 10m. This has been provided in the requested formats for demersal trawled gears, i.e. beam trawls, otter trawls, and demersal seines. Data has been aggregated by year, quarter, vessel length, and gear for all areas detailed in the STECF-SGMOS data call in which the Irish fleet is active. Trawled hours were calculated by summing fishing time to the aggregation level requested in the data call. The same base operational logbooks data as for aggregation of days at sea effort was used to ensure consistency between datasets.

The data call requested detailed area information (e.g. coast, RFMO, EU). It was not possible to aggregate data at this level of spatial detail. Detailed areas were assumed. Where an EU category existed within an area, all data from that area was categorised as EU, with the exception of ICES division X assumed to be RFMO. Those ICES divisions without an EU category where assumed as 1 coast, 2 coast, and 12 RFMO.

Effort data was also provided by BSA and ICES rectangle 28E2, labelled as such within the area field. It should be noted that effort from these areas are also contained within their relevant ICES area. Further more, deepwater effort has been provided, classified as "Deep" within the special conditions field. Deepwater effort was identified as those vessels carrying out individual trips retaining 100kg or more of aggregated deepwater species (Annex I of Council Regulation 2347/2002), regardless of permit status. In addition, the group agreed to include trips where the aggregated Annex I species represented greater than 35% of the total trip landings as deepwater. This effort is a duplication of effort within the relevant areas.

No special conditions were allocated to Irish fleet categories, as no Irish vessel applied for the special conditions relating to Annex IIa (Council Regulation 40/2008) since the special conditions were introduced. Those special conditions applied for by Irish vessels relate to the allocation of additional days at sea for enhanced observer coverage.

Netherlands: The Netherlands provided effective effort (in units of fishing hours) by rectangle for the years 2003-2008, as requested in the official data call.

Portugal: Portugal provided effective effort data by statistical rectangle in hours fished.

Spain: Spain did not provide effective effort data by statistical rectangle.

Sweden: Sweden provided effort data by rectangle for 2003-2008, with the same gear and mesh sizes categories and including the same derogations as for nominal effort data (see sec. 5.5.2). The effort data are expressed as hours fishing per trip and vessel /Ices square, based on the set position of the gear. The data could overestimate the hours spent /Ices square since the fishing operation to a large extent could have been performed in neighbouring Ices rectangles.

UK England: England provided effort by ICES statistical rectangle data for the years 2003-2008. It was not possible to provide trawled hours data however. This is because hours trawled is not a mandatory field in the fishers' logbooks and is therefore not necessarily completed. Instead, the data used to provide nominal effort (see section 5.5.2) is held on a

statistical rectangle basis by UK (England). This data was simply multiplied by 24 to get a measure of fishing effort expressed in hours.

UK (Scotland): Scotland provided effort by ICES statistical rectangle data for the years 2003-2008. It was not possible to provide trawled hours data however. This is because hours trawled is not a mandatory field in the fishers' logbooks and is therefore not necessarily completed. Instead, the data used to provide nominal effort (see section 5.5.2) is held on a statistical rectangle basis by UK (Scotland). This data was simply multiplied by 24 to get a measure of fishing effort expressed in hours.

5.2.4. Fleet specific landing and discard data 2003-2008

The availability of the requested fleet specific catch and discard data is summarised, by Member State in the Table 5.2.4.1. According to the experts, none of the national data bases includes unallocated landings. Not all Member States provided landings, discards and biological data from all species requested, so only anglerfish, cod, haddock, whiting, saithe, hake, plaice, sole, mackerel, horse mackerel, blue whiting, rays, penaeid shrimps and *Nephrops* are considered in the analyses conducted. Overall, the landings figures compiled in the data base are consistent with the officially reported landings of the stocks considered in the analyses. Some Member States again did not provide essential quality parameters of the data. Consequently, STECF-SGMOS remains in a poor situation regarding the description of the quality of the fleet specific estimates of discards and age disaggregated catches, mainly due to lack of requested information (no. of discard samples, fish measured and aged). Quality control notes observed by JRC are summarised below followed by further explanatory notes from some Member Staes

Table 5.2.4.1 Overview on 2003-2008 catch data reports (landings and discards) provided by EU member states with and without special conditions laid down in Annexes IIA-C of Council Reg. 40/2008 and 43/2009

	According to Annexes IIA-C of Coun. Reg. 40/2008 and 43/2009
Country	landings data 2003-2008
Belgium	review o.k.
Denmark	no specon in the Baltic Sea
Estonia	only years 2006-2008, no specon, no mesh size
Finland	review o.k., no biological data
France	few inconsistencies in codifications
Germany	review o.k.
Ireland	review o.k.
Latvia	review o.k.
Lithuania	only 2005-2008, only cod, no specon
Netherlands	only year 2008, only area 4, only cod, ple and sol, only beam, no mesh size
Poland	only cod
Portugal	many inconsistencies in codifications including specon
Spain	only areas 4-9, no deep or BSA
UK England incl. Northern Ireland	few inconsistencies in codifications, biological data imprecise
UK Scotland	few inconsistencies in codifications, biological data imprecise
Sweden	few inconsistencies in codifications, only cod in the Baltic Sea
Country	discards data 2003-2008
Belgium	review o.k.
Denmark	no specon in the Baltic
Estonia	none
Finland	review o.k., no biological data
France	none
Germany	review o.k.
Ireland	review o.k.
Latvia	review o.k.
Lithuania	2005-2008, only cod, no specon
Netherlands	only year 2008, only area 4, only cod, ple and sol, only beam, no mesh size
Poland	only cod
Portugal	incorrect
Spain	only areas 4-9, no deep or BSA
UK England incl. Northern Ireland	few inconsistencies in codifications, biological data imprecise
UK Scotland	few inconsistencies in codifications, biological data imprecise
Sweden	few inconsistencies in codifications, only cod in the Baltic Sea

List of data deficiencies, inconsistencies and manipulations observed by JRC while uploading data base A of landings and discards

Belgium: o.k., no manipulations.

Denmark: o.k., no special conditions in the Baltic areas, no manipulations.

Estonia: only years 2006-2008, no special conditions, no mesh size, no discards, area code IIa replaced with 2 RFMO, area code VIb replaced with 6b EU, area code XII replaced with 12 RFMO.

Finland: o.k., no biological data, one record pel_trawl 16-31 specon bacoma replaced with none

France: o.k., no vessel length categories reported, no discards, no rectangle 28E2, many inconsistent records with area BSA and specon DEEP, will be ignored in the analyses, some records with non-specified areas 7 and 8 will be ignored as well. Gear small_beam replaced with beam, area codifications made consistent, mesh size >16 was replaced with none, all mesh size codes of gear none were replaced with none, all specon IIA83g of trammel with mesh size 110-149, 150-219 and >=220 were replaced with none, otter mesh size 60-69 were replaced with 55-69

Germany: o.k., DREDGE, 70-79, 4 specon IIA83d replace with none, POTS in area 8 replaced with 8a, Area 12 EU, 12 COAST replaced with 12 RFMO.

Ireland: o.k.

Latvia: o.k., longline mesh size 16-31 replaced with mesh size none.

Lithuania: only years 2005-2008, only cod, no specon, area code “25-29” replaced with “25-29”.

Netherlands: only area 4 (North Sea), only cod, plaice and sole, only beam trawl, no mesh size, deep sea catches are missing. Old sequential data format was reset to the tabular format requested, specon was set to none, mesh size was set to 80-89.

Poland: Only cod and only in area Baltic reported. Bacoma nets 100-119 were replaced with >=105, longline mesh sizes were all replaced with none.

Portugal: Pots or pel_seine or trammel or dredge with specon IIb72ab was replaced with none, otter or gill without mesh size with specon IIb72ab was replaced with none, gill nets with mesh size 50-59 and specon IIb72ab was replaced with none, lots of additional areas reported which were not requested, only very few and low discard figures were reported. According to expert advice all Portuguese discard figures were multiplied by 10.

Spain: only areas 4-9, deep sea and BSA fleet aggregation missing.

UK Scotland: o.k., codifications of specon IIA81c, IIA81d, IIA81i were corrected to IIA83c, IIA83d and IIA83d, beam mesh size 80-89, 90-99 and IIA83i specon was replaced with none, gear dem_se is replaced with DEM_SEINE, pel_se is replaced with PEL_SEINE, tramme is replaced with TRAMMEL, longli is replace with LONGLINE, pel_tr is replaced with PEL_TRAWL, pots with mesh size 11232 and <10 was replaced with none, gill with mesh size 11232 was replaced with none, one record with gear none mesh size 80-89 was replaced with none. Records BSA with special condition deep and other unknown areas, will all be ignored anyway.

UK without Scotland: o.k., gear pel.seine and pel.trawl replace with pel_seine and pel_trawl, area codifications made consistent (space included between Div. and zones), all specon IIA83c, f and i assigned in area BSA were replaced with none, all specon IIA83d

and f in area 6b EU were replaced with none, all specon IIA83 f in area 7b , all specon IIA83c, d and f and g in area 7e, all specon IIA83 f in area 7b , all specon IIA83f, g and i in area 7f, all specon IIA83c, f and i in area 7g, all specon IIA83c, f and i in area 7h were replaced with none, all specon IIA83c and f 7j EU were replaced with none,all mesh size were replace to none if gear is none, were replaced with none vessel size category was included to table structure and updated with the specon u10m, specon u10m was replaced with none.

Records BSA with special condition deep and other unknown areas, will all be ignored anyway.

Sweden: Vessel size category 15m was corrected to o15m, size category 10t15m was corrected to o10t15m, few gears none with mesh size were corrected to none mesh size, pots 32-54 were corrected to 31-49, new mesh size category for fixed gears 157-219 was used, only cod landings and discards in the Baltic.

The following are Member State descriptions of data submitted.

Belgium: Belgium provided fleet specific landings data for 2003-2008 derived from official logbook databases for all vessels ≥10 meters. The data covers all areas defined in Annex IIA in which the Belgian fleets are active and conforms to the requested aggregation, by quarter, area, gear and mesh sizes.

The species provided are: anglerfish, brill, cod, dab, haddock, hake, lemon sole, *Nephrops*, plaice, saithe, pollack, sole, skates and rays, turbot and whiting. The age composition on landings for sole and plaice in ICES subdivisions IVb, IVc, VIId, VIIa, VIIfg and sole in subdivision VIIIab have been provided by quarter for the Belgian beam trawlers. The total number of samples, as well as numbers aged and length measurements by quarter have been apportioned in the same ratio as total quarterly beam trawl fleet landings to annual landings.

Discard data for 2004-2008 were provided from the Belgian Beam trawl fleet for the following species: anglerfish, brill, cod, dab, haddock, hake, lemon sole, plaice, saithe, sole, skates and rays, turbot and whiting. The areas covered are 4, 7a, 7d, 7e, 7f and 7g. Belgian discard data represent all ages without disaggregation by age. Information by area for all observer-trips during the year have been merged together, giving an annual percentage of discards estimate per species. The annual estimates of discard rate have been assumed to apply in each of the 4 quarters.

There is no information on misreporting. The landings in the database are based on combined information of logbook data and sale slips. The actual landed weight is split according the logbook information on hours fished in the respective rectangles.

As Belgium does not have trip-by-trip information on the true mesh size for its fleets for 2003-2006, Belgium (as well as other countries) agreed to assume certain mesh sizes for its beam trawler fleets. Beamers operating in area VIIIa,b were assumed to use a 70-79 mm mesh size as this is the minimum legal mesh size in that area for beamers. For the North Sea, the trips were split according to the rectangles reported in the logbooks, and mesh sizes were allocated in line with Council Regulation (EC) N° 2056/2001. This regulation stipulates that beam trawlers are prohibited to use less than 120 mm in ICES Division IV to the north of 56° 00' N. Therefore all beam trawl information from this part of ICES Division IV was accounted against an assumed >120mm mesh size. The same regulation also stipulates that within the rectangle with coordinates along the east coast of the UK between 55° 00' N and 56° 00' N and the points 55° 00' N – 05° 00' E and 56° 00' N – 05° 00' E, beam trawlers can use 100 to 119 mm mesh size. Here also it was

assumed that the mesh size used by the Belgian Beam trawl fleet was 100-119 mm. For the rest of ICES Division IV (the southern part) a mesh size of 80-89 mm was assumed for the beam trawlers. Apart from these assumed mesh size which are based on rectangle information from logbooks, it was also assumed that the shrimp fishery used a mesh size of 16-31 mm. The mesh size of the beam trawl fleets in the other area's was assumed to be 80-89 mm. Since 2007 mesh sizes used by beam trawls operating in different areas have been based on the true mesh sizes used on each trip.

The Belgian gear categories are: beam, dredge, gill, longline, otter, and trammel. For trammel nets, no assumptions of mesh sizes were made. No special conditions were allocated to any Belgian fleet category until now as no Belgian vessel applied for any special condition in any year since the special conditions have been introduced.

Denmark: Denmark provided quarterly landings data for 2002-2008 for the areas North Sea, Skagerrak and Kattegat in the required data format, and covering 39 species. The Danish data include all trip information from vessels both above 10 m (with mandatory logbook submision) and below 10 m (with declarations of fishing area ("farvandseklæring") and being allocated an effort of 1 (one) fishing day. Landings information comes from the sale slips register. Age distribution data were provided for cod, haddock, plaice, sole and saithe 2003-2008. Numbers of samples for landings by species/fishery were provided according to the requirement. Discards data were provided for Kattegat, Skagerrak and North Sea. However, the Danish discards sampling program is structured according to national fisheries definitions, which do not cover the same level of precision as landings data with regards to mesh size (categories available are Danish Seine, *Nephrops* trawl and Demersal trawl). The number of samples within each stratum is considered too low to be further broken down to the requested mesh sizes categories. Therefore the Danish discards data were not included in the database. There is no quantitative information on misreporting, but there are some indications on potentially significant mis- and underreporting of cod in Kattegat (ICES WGBFAS 2007).

France: Landings data by derogation to the mixed fishery database from 2000 to 2008 were updated for all areas, species and gears. Data by age has been provided for whiting and saithe for the same period.

Discards samples have not been raised to the total French fishery. The level of sampling being rather weak for most of the fishery and the variability high from one trip to another, it has not been possible so far to raise the samples to the total fishery.

These results are to be treated with caution at the present time considering the high degree of uncertainty arising from the low sampling level. Furthermore, these results do not take into account the possible differences between metiers.

Germany: Fleet specific landings and estimated discard data were provided for 2003-2008 derived from official logbook data bases covering all vessels ≥10m. The data do not include unallocated landings. The data for 2003-2006 submitted are consistent the data provided in 2007. The estimation of discards is based on about 20-30 observer trips per year and the ratio between observed catch and discard weights (sec 5.6). Age compositions of the landed or discarded catches are given where data were available and the sum of products-check (SOP) did not exceed ±25% of the assessed weight of the

landings or discards. The data cover the areas defined in Annex IIA, i.e. Skagerrak, Kattegat, North Sea including the southern part of Division II in the EU-Zone and the Division VI to the west of Scotland. There were no demersal fisheries (mesh sizes ≥70mm) conducted in the Eastern Channel, the Irish Sea or the south-western Divisions. The data consider the aggregation by quarter, area, gear, mesh size, and existing derogations including special conditions of 8.1.a, 8.1.c, 8.1.d, 8.1.e and 8.1.f and species requested by the group including dab, anglerfish and lumpsucker. During 2000-2008, the fleets did not apply or have been eligible for other special conditions as confirmed by personal communication with the control and enforcement institute (BLE).

Ireland: Ireland provided fleet specific landings data for 2003-2008 derived from official logbook databases for all vessels ≥10 meters. Operational landings information was used in order to provide landings data within the Biologically Sensitive Area (BSA) and ICES rectangle 28E2 as requested within the data call. Landings for vessels under 10 meters are not required to complete logbooks. Landings data from under 10m vessels are obtained from monthly reports. These reports provide the species live weight by ICES area landed into ports each month. No vessel, gear, or effort information is recorded. There is some doubt as to the accuracy of these monthly reports. The data covers all areas requested in the STECF-SGMOS data call in which the Irish fleet is active. All species requested by the group landed by Irish vessels have been included. The landings data conforms to the requested aggregation, of quarter, area, gear, mesh size, and species. The data call requested detailed area information (e.g. coast, RFMO, EU). It was not possible to aggregate data at this level of spatial detail. Detailed areas were assumed. Where an EU category existed within an area, all data from that area was categorised as EU, with the exception of ICES division X assumed to be RFMO. Those ICES divisions without an EU category where assumed as 1 coast, 2 coast, and 12 RFMO.

Landings information was also provided by BSA and ICES rectangle 28E2, labelled as such within the area field. It should be noted that landings from these areas are also contained within the relevant ICES areas. Furthermore, deepwater landings have been provided, classified as “Deep” within the special conditions field. Landings were identified as deep when vessels carrying out individual trips retained 100kg or more of aggregated deepwater species (Annex I of Council Regulation 2347/2002), regardless of permit status. In addition, the group agreed to include trips where the aggregated Annex I species represented greater than 35% of the total trip landings as deepwater. These landings are a duplication of landings within the relevant areas.

No special conditions were allocated to Irish fleet categories, as no Irish vessel applied for the special conditions relating to Annex IIa (Council Regulation 40/2008) since the special conditions were introduced. Those special conditions applied for by Irish vessels relate to the allocation of additional days at sea for enhanced observer coverage.

There is no quantitative information on misreporting. Revisions have been made to the 2003-2007 data provided to STECF-SGRST in 2008. These revisions result from a combination of data availability updates and database improvements.

Irish biological landings information (age, lengths, and weights), data was extracted from the Irish port sampling database (STOCKMAN). Gear mesh size is not recorded in the STOCKMAN database, however the vessel name and landings date are. With this information it was possible to re-construct the mesh size data from the logbooks database. If more than one mesh size was used on a single trip, the dominant mesh size was chosen. The dominant mesh size is defined as the mesh size that corresponds to the highest effort (fishing time in minutes). Tools developed under the COST Project (Common Open Source Tool; http://wwz.ifremer.fr/cost) were used to raise the length samples to the

landings and apply age-length-keys (ALKs) to the length data. Length-weight relationships were estimated for each species by year and applied to the length samples to estimate the sample weight. The length samples were then raised to the total landings using the fraction of the landings weight and sample weight. Biological landings data was provided for a total of 2,192 aggregations. Information has been provided for the following species: anglerfish, cod, dogfish, haddock, herring, hake, horse mackerel, megrim, ling, mackerel, plaice, saithe, sole, blue whiting, and whiting encompassing combinations of 16 ICES division subsections, and 9 gear groups.

Discards and biological discard information were extracted from the Irish discard database. To ensure consistency with landings information, technical details (including mesh size) of discard observer trips were re-constructed from the logbooks database. Discard length samples were raised to the fleet segments based on the number of trips within the segment. Age-Length Keys (ALKs) were constructed for each year, quarter, ICES Division and species. The ALKs were applied to the raised length data to obtain discard numbers-at-age. Any gaps (length classes for which no age data exists) were filled in using a multinomial model described in Gerritsen *et al*. (2006). Biological discard data was provided for a total of 703 aggregations. These include the following species: cod, haddock, megrim, plaice, saithe, sole, and whiting encompassing combinations of 8 ICES divisions, and 4 gear groups.

Netherlands: The Netherlands provided incomplete data.

Portugal: Portugal provided landings data for 2004- onwards by quarter and year in the required data format for the areas 8c and 9a where the Portuguese fleet operates. Portugal did not provide discards data due to difficulties with the estimation procedure and the short time period of the discards sampling program. Age disaggregated landings were provided for hake, as well as for horse mackerel, mackerel, Spanisch mackerel and blue whiting. The information refers to all fishing vessels with overall length ≥10 m, licensed for the period 2004-2006. The gear categories and mesh size provided were in agreement with the data call and Annex IIB, gillnet with mesh size >60mm, otter trawl with mesh size >32mm and bottom longlines. However, no mesh size information could be provided for significant parts of the fleets deploying the gears defined and contributing significantly to both hake and *Nephrops* landings. In the case of trawl, the unknown mesh size means that although the mesh size is greater than 32 mm, it is not possible to specify according to the categories defined by this working group, but their landings can be taken into account. The same is not applicable to the gillnets with unknown mesh size. This resulted in a high proportion of gillnet landings which could not be assigned to the defined derogations and therefore were grouped as unknown (none). Special conditions have been provided for a mixed passive gear category ("PGP"), that includes vessels that operate with more than one gear. Although this group includes unregulated gears (trammel nets, traps, dredges, etc.) and regulated gears (longlines and gillnets) affected by the special conditions, it was not possible to consider the gear specific landings in the evaluation and they were added to "none". The trawl fleet was further allocated to two fisheries, targeting crustaceans operating in area 9a or targeting demersal fish operating in areas 8c and 9a.

Spain: Spain provided incomplete data. Fleet specific landings data were provided for 2003-2008 derived from official logbook databases for all vessels ≥10 meters. Data include all trips (with and without landings of hake), species and Spanish landings in other Member States. The data covers ICES Subarea VII and ICES Divisions VIIIc and IXa (without Gulf of Cádiz in 2006 and 2007)

Sweden: Sweden provided catch data in the required data format for cod, *Nephrops* and plaice for the years 2003-2008, by quarter, for the areas: Skagerrak and Kattegat.

However, as the by-catch data for other species could not be identified by quarter, all Swedish catches were assigned to be taken during the first quarter. STECF-SGRST notes that this data manipulation prevents any analyses by quarter. Age distribution data were provided for cod, plaice and *Nephrops* (both for the retained and the discarded part of the catch). Data for special conditions were available only for special condition IIA81b in Skagerrak for 2004, 2005, 2006 . The gear categories used for are otter trawl 90-99mm, split into *Nephrops* - demersal fish and *Nephrops* trawl with sorting grid (IIA83b). For 2006 data covered the gear category of gill nets of the mesh size range 110-149mm. Mesh sizes were stratified according to requirements. No catch data were provided for vessels <10m. In Sweden, landings of cod were prohibited during parts of 2003, 2004, 2005 and 2006 which resulted in discard of adult cod. There is no information on misreporting.

In 2007, Sweden provided catch data for the special condition aiii AII 83a, (90 mm trawl with 120 mm square mesh panel).

UK (England, Wales and Northern Ireland): The raising procedure used by the UK (England, Wales and Northern Ireland) for 2008 has changed significantly from previous years and data have been reworked for the entire period of 2002-2008.

Landings and effort data were retrieved by The UK Marine Fisheries Agency (MFA) on a year, quarter, species, area, gear, mesh, special condition basis. Length compositions for the landings and discards came from the discard sampling. Comparisons of the length compositions from the market sampling and the discard sampling programmes for the major stocks showed generally good correspondence. There is no guarantee that either the market sampling, or the discard sampling gives the “true” LD.

ALKs for landings were created on a year, quarter, species, area basis from the market sampling data. The same strata were used for discard ALKs but the data came from the discard sampling programme. Annual versions of the ALK (i.e. year, species, area) were created for filling in missing values.

Missing values in the retained portion of the ALK (i.e. lengths observed for which no age data exist) were filled first using the annual retained ALK, then the quarterly discard ALK then the annual discard ALK. Missing values in the discarded portion of the ALK were filled using the annual discard ALK, then the annual retained ALK. Strata were only considered to have sufficient age data if more than 80% of the fish measured had associated ages. Those strata with less than 80% aged result in the provision of landings and discards biomass only. In those strata considered well aged, lengths for which there was no associated age were ignored. Numbers retained and discarded at age were raised up such that the retained biomass equalled the landings recorded in FAD (the official system for recording landings information in England and Wales. Discard data were also ignored if the retained biomass of a strata was less than 0.02% of the total landings – these strata are presented with landings biomass only. For those stocks with no observed discards (or insufficient data), the final table contains only landing information.

UK (Scotland): Landings data were provided for the years 2003-2008 for all species caught by Scottish vessels specified in the STECF data requirement, including: cod, haddock, whiting, saithe, monkfish, plaice, sole, *Nephrops*, lumpsucker, turbot and dab. The data does not include landings with no matching effort data for the voyage, though if there is any effort data for the voyage, matching effort records are imputed for all landings. The data conforms to the aggregation by quarter, area, gear and mesh size as set out in the data request. Fisheries are defined using a combination of gear, mesh size and fishing area as set out in the STECF data requirement. Landings and discard numbers at age were derived from market sampling and discard sampling data. This data is stratified by

west coast (division VIa) and east coast (sub area IV). If data was from landings from one of these two areas and if the gear category could be matched to FRS specific gear codes catch and discard numbers at age were supplied for cod, haddock, whiting and saithe. For landings from other areas (including all areas in Southern Shelf waters), other types of gear, and in all cases for other species, only landed weight was provided for the given category. Landing numbers at age were calculated from (landed weight in the record * proportion of quarterly landed weight represented by age A)/(mean weight-at-age A). Discard numbers at age were calculated from (landed weight in the record * proportion of quarterly discarded weight represented by age A * ratio of quarterly discards to landings)/(mean weight of discards at age A). The market and discard sampling data files are only produced according to the following categories

- MTR: Motor trawl (bottom trawls, boat length >= 27.432m, targeting demersal species)
- LTR: Light trawl (bottom trawls, boat length < 27.432m, targeting demersal species)
- PTR: Pair trawl (all pair trawls targeting demersal species)
- SEN: Seine nets (single and pair)
- NTR: Nephrops trawls (all trawls targeting Nephrops)

Therefore, even though landed weights are differentiated according to the data specification of this sub-group no distinction can be made between mesh size categories in terms of proportions at length and proportions at age in the landings and discards, or between mesh size categories in terms of the ratio of discards to landings. In addition, age-length keys are pooled for LTR, NTR and SEN such that the age/length relationship will be common across these gears. Currently Scottish discards are raised using a stratified ratio estimator, with the strata being defined by gear type, area (i.e. areas defined in the Scottish market sampling scheme) and quarter (January – March, April – June, …). The auxiliary variable used in the ratio estimator is species landings. Due to the expensive nature of discard sampling many strata are unsampled. This problem is overcome by ad-hoc fill in rules – inshore light trawl data might be used to fill in an empty inshore *Nephrops* trawl stratum for example. The estimates of discards for each stratum are then summed to give an estimate of total discards, by area and gear if required. There are known problems, however, with bias and imprecision with this method. For comments on incorporation of special conditions see the UK (Scotland) paragraph under section 5.2.2.

5.2.5. Fleet specific landing and effort data 2003-2007 of small boats (<10m)

Belgium: Belgium did not provide any information for vessels under 10m.

Denmark: Landings and effort data for vessels less than 10m were made available by Denmark in the same format as for larger vessels. Vessels of size less than 10 m are included in the general Danish vessel register database together with the vessels > 10 m (for which logbooks are mandatory). Landings from the small vessels are however recorded through a sale slips register as for vessels > 10 m, and information on the effort of vessels < 10 m is provided through declarations of which area the fishing trip took place (“farvandserklæring”). The level of effort is estimated as one fishing day per registered trip, as most vessels engage in day-trip fishery. This is the basis for the data on landings composition and fishing area by these vessels. Gear and mesh size is often missing, and no information is provided on the ICES rectangle level. On a national scale, the number of small vessels registered in the database has been fairly constant around 850 vessels since 2000, while in comparison the number of vessels larger than 10m has decreased regularly from 1100 vessels in 2000 to 760 in 2006.

France: France provided data for vessels under 10 m for the period 2003 to 2008. All vessels registered in the national Fleet Register have to submit a declaration. Small vessels less than 10 meters are not obliged to complete logbooks but they have to submit a monthly form. These data are stored in the national data base in the same way as for other vessels (> 10 meters).

Effort data are calculated from declarative sources listed above. They were validated by cross-checking with a national sampling for monthly activity calendar. All fishing vessels are sampled directly or indirectly to assess the metiers they have done during the previous year.

Germany: Germany provided aggregated data regarding the fleet of vessels <10m. The data cover landings by area and species and effort in terms of number of vessels. However, no mesh size information is available from the landings declarations given in the years 2004-2008. The data are evaluated in section 6.7.2.

Ireland: Ireland provided data for small vessels of less than 10 meters in length for the period 2003-2008. Attempts are underway to construct an accurate list of these small vessels, which at present stands as approximately 1284 registered vessels, of which around 600 or so hold polyvalent pot licences.

Vessels less than 10 meters are not legally required to complete logbooks, therefore data of limited detail is available. Landings data from Irish vessels under 10 meters are obtained from monthly reports. These reports provide the species live weight by ICES area landed into ports each month. No vessel, gear, or effort information is recorded. There is some doubt as to the accuracy of these monthly reports. However, landings show the main species landed by <10m vessels to be non-TAC, shellfish species. In terms of sampling programs, there are no long-term specific programs like those for over 10 meter vessels. This is partly due to the insignificant landings of TAC species, as well as issues relating to onboard sampling staff safety. However, studies are carried out on specific species or sections of the inshore fleet, including lobster and brown crab, or activity patterns of vessels from certain ports. Landings data are given in aggregated formats within each of the Annex IIA area sections for which landings are recorded for the Irish under 10m vessels.

Monitoring of effort by the small inshore vessels presents difficulties as fishers are not required to record their effort. However, the majority of these small vessels have a daily fishing pattern, leaving at dawn and returning in the afternoon of the same day to land their catch. These are primarily artisanal vessels, not equipped to hold fish on board for long periods. Gear choice of these small vessels is influenced by both home port and local available stocks. The principal methods of the inshore fleet are passive, particularly pots. However, other gears are used including otter trawls and shellfish dredges. The under 10 meter vessels exploit the territorial sea and coastal waters, operating within the ICES areas adjoining the Irish coast (VIa, VIIa, VIIb, VIIg and VIIj).

No information regarding small boats <10m was provided by the Netherlands.

No information regarding small boats <10m was provided by Portugal.

No information regarding small boats <10m was provided by Spain.

Sweden: Effort and landing data for vessels less than 10m were made available by Sweden in the same format as for larger vessels. Vessels <10 m that are using trawl and demersal seines are obliged to use the same logbook as larger vessels. Vessels <10m using other gears are using the “coastal fishing journal” which predominantly follows the same structure as the standard logbook. Sweden reported landings on Nephrops, Cod and Plaice for vessels (<10m) for 2003-2008.

UK England, Wales and Northern Ireland: Data on catch and effort for under 10 m vessels are made available for UK vessels (including England, Wales and Northern Ireland). However, the effort data in particular are likely to be incomplete as there was no obligation for vessels to report effort before mid-2006.

UK Scotland: Effort data for Scottish vessels <10m were made available to STECF-SGRST. The effort data for 2000-2008 are given in a format consistent with the data submissions for bigger boats. Prior to the introduction of UK legislation known as the Register of Buyers and Sellers (RBS) for shellfish in Scotland in early 2006, some effort catching shellfish using POTS and Shell fishing by hand appears to have been under-recorded but the data for effort by other gears (those regulated for vessels >10m) shows no change in trend consequent on the introduction of RBS and therefore can be assessed as being complete in earlier years. However, the effort data supplied for Scottish registered vessels will exclude voyages landing into ports in England and other non-Scottish areas of the UK. Data on number of vessels per category has been supplied. Scottish under 10m boats are known to use more than one type of gear on individual trips or within a quarter, however and multiple counting of boats is therefore significant. The landings data for 2003-2007 are given in a format consistent with the data submissions for bigger boats.

Although UK(Scotland) carry out a stratified sampling observer programme based on gear, area and quarter, no specific consideration is given to estimating discards for vessels in the category of less than 10 metres in length. Vessels in this category are classed in the same groups as vessels over 10 metres in length based on the fishing method rather than vessel size. For a variety of reasons, including Health and Safety, discard sampling staff tend not to sail on vessels in the under 10 metre category.

In 2003 the Scottish Fisheries Statistics showed landings of the main commercial demersal species from vessels in the <10 metre category operating in Scotland to be below the level where the sampling intensities as defined in Appendix XV (Section H) of regulation (EC) 1639/2001 (Table 2) requires sampling to be carried out. A pilot study conducted in 2004 comparing a <10m vessel and >10m vessel using trawl gear and targeting *Nephrops* concluded overall weight discarded per hour was very similar between the vessels. As a consequence regular sampling of the <10 metre category in relation to landings and discards of *Nephrops* are conducted but the estimation of demersal discards for this category is based on the assumption that all vessels targeting *Nephrops* and operating in the same sampling area have the same catching and discarding characteristics.

5.3. Estimation of fleet specific international landings and discards

The estimation of fleet specific international landings and discards is based on linking the information about fleet specific discards and catch and discards at age among countries and replacing poor or lacking values with aggregated information from other countries.

Reported data by country are aggregated by fleet properties and raised to the officially reported landings or discards in the SGDFF 2004 (ICES 2004) format. Fleet definitions are based on area, year, quarter, gear, mesh size groups, special conditions as defined in Council Reg. 41/2007 Annexes 2A-C and national fisheries (metiers) definitions.

The data management and estimation procedures follow the simple raising strategies outlined below :

- Data management:

The fleets are classified to their management areas, years, quarters and effort regulated gear groups disregarding the countries and fisheries (metiers).

- Estimation of discard rates by fleet (DR):

  Let the following notation be: D=discards, L= landings, *snf* = sampled national fleet, *unf* = unsampled or poorly sampled national fleet.

  A poorly sampled fleet is defined as such when $SOP_{snf} < 0.75$ or $SOP_{snf} > 1.25$

  The available landings and discards are aggregated (summed) by fleets and mean discard rates are calculated:

  $$DR = \frac{\sum_{snf} D_{snf}}{\sum_{snf} (L_{snf} + D_{snf})}$$ with $D_{snf} \geq 0$ and with $L_{snf} + D_{snf} > 0$ otherwise 0 (means no catch)

  Fleet specific discard amounts are calculated when no discard information is available by

  $$D_{unf} = \frac{L_{unf} . DR}{(1 - DR)}$$ when D_{unf} is null (empty)

  Fleets without any discards information remain as such.

- Estimation of landings in numbers and mean weight at age for non or poorly sampled national fleets

  Let *i* be the age reference

  Landings in numbers ($N_{snf,i}$) and mean weight at age ($W_{snf,i}$) are aggregated by sampled fleets when $SOP_{snf} \geq 0.75$ and $SOP_{snf} \leq 1.25$.

  Raising of numbers and mean weights at ages 0-11 to non or poorly sampled fleets by

  $$N_{unf,i} = \frac{\sum_{snf} (N_{snf,i}) . L_{unf}}{\sum_{snf} L_{snf}}$$

  $$W_{unf,i} = mean(W_{snf,i})$$

  The mean weights are unweighted and an appropriate weighing procedure, i.e. number of fish measured, should be explored.

  Fleets without any landings at age information remain as such.

- Estimation of discards in numbers and mean weight at age for non or poor sampled fleets

Discards in numbers ($N_{snf,i}$) and mean weight at age ($W_{snf,i}$) are aggregated by sampled fleets when $SOP_{snf} \geq 0.75$ and $SOP_{snf} \leq 1.25$ along the same procedure as for the landings.

Raising of numbers and mean weights at ages 0-11 to non or poorly sampled fleets by

$$N_{unf,i} = \frac{\sum_{snf}(N_{snf,i}).D_{unf}}{\sum_{snf} D_{snf}}$$

$$W_{unf,i} = mean(W_{snf,i})$$

The mean weights are unweighted and an appropriate weighing procedure, i.e. number of fish measured, should be explored.

Fleets without any landings at age information remain as such.

An example of this raising procedure is given in Table 15.2.3.2 under the header "Discards", the values between parenthesis are the estimated values.

- Catch at age estimation including discards

  Catches by fleets are estimated as the sum of landings and discards. Missing discards are ignored.

  Catches at ages 0-11 in numbers are estimated as the sum of landings at age in numbers and discards at age in numbers. Missing discards are ignored.

  Mean weights at ages 0-11 are estimated at weighted means (according to ratios of landings at age and discards at age to catches at age).

  Finally, all fleets' catches and catches at ages in numbers and mean weights are aggregated finally over management areas, years and effort regulated gear groups.

  Fleets without any information on discards or landings at age and discards at age remain unchanged and need to be raised separately on an agreed basis in case that they constitute significant landings.

The STECF-SGMOS notes that sampling of catch at sea including discards is expensive and difficult. This means that sampling coverage tends to be rather limited, and estimates of discards are subject to high uncertainty. This is true of all the discard data used here, and in some cases the discard estimates presented represent the first attempt to use the discard data from some fisheries in an advisory context. Where the coverage is considered adequate to estimate the overall catch compositions of specific fleets these are presented, but they are intended only to provide an approximate indication of fleet catch compositions. In cases where there are little data, the estimated discard rates may be biased and imprecise (Stratoudakis *et al.*, 1999). The mean weights are estimated as unweighted means. This results in a biased estimate. An appropriate weighing procedure, i.e. number of fish measured, should be explored.

STECF-SGMOS further notes that the approach of discard estimation applied is generally consistent with the method used in the discard estimates published by the FAO (Kelleher,

2004). However, the group also notes that the design of a discard sampling scheme might differ depending on whether the objective was to estimate total discards, or discard for specific fleets. In the current context estimates from sampling schemes designed for the former purpose are being used for the latter purpose which again means the estimates should only be used with caution. Where this is the case, comparisons are made between the estimates of total discards used for assessment purposes, and the fleet-specific estimates used here.

With regard to age composition data, STECF-SGMOS notes that the analyses presented here are intended to quantify the catch compositions of the various fleets and gears of interest. For this purpose it is the species compositions and the estimated landings and discards that are of primary importance, with the age compositions being only of secondary importance. Applying the age compositions to the national catches by fleet and gear is a complex process not least because it typically involves considerable filling-in to account for categories which do not correspond to those within national sampling schemes. It would make any future data compilation and analyses much more efficient if age composition data were not required. While there is clearly a trade-off between efficiency on one hand and providing additional information on the other, the group notes that in the current context the age composition data add little information. As a result it proposes that any future data requests and analyses should be restricted to age-aggregated information.

5.4. Treatment of CPUE data

In this report, STECF-SGMOS presents CPUE by regulated gears in units of g/(kW*days). Where discard estimates are not available, the trends in LPUE (landings per unit of effort) are given in the same units**.** Unfortunately, discard information continues to be sparse or absent for some categories of gear in some areas. **STECF wishes to stress again that great care should be used in the interpretation of these data owing to the incomplete nature of information on discarded fish.**

STECF-SGMOS notes that CPUE series are often interpreted and used as stock abundance indicator. However, STECF-SGMOS emphasises that the presented trends in CPUE by fleets are subject to selective fishing strategies (area, gear, mesh size etc.) and thus maybe biased. On the other hand, CPUE derived from targeted fisheries may provide very useful information on stock abundance trends. Furthermore, it must be taken into consideration that the majority of the CPUE trends represent only overall weights in the landings (LPUE) without discards or with poorly estimated discards. Ideally, the CPUE should be based on age disaggregated abundance rather than overall weights and reflect technological creep when trends over longer periods are evaluated.

5.5. Ranking of gears on the basis of contribution to catches

Where required, STECF-SGMOS presented the ranked contributions of the individual regulated gears listed in **Annex I to R(EC) No 1342/2008** to cod, plaice and sole catches for the years 2003 to 2008. There was discussion about whether the ranking should be based on a single recent year (possibly reflecting the most up to date importance of the different gear types in contributing to mortality of these species) or an average for a range of years (which allows for any aberrations in the series). A decision was taken to rank according to 2008. The data for other years are available for alternative analysis in the background spreadsheets.

The catch estimates are based on the sums of the landings and discards where available. STECF-SGRST considers the catch estimates as uncertain where derogations lack discard estimates or they are poorly sampled. The ranking according to catch in numbers only considers derogations for which catch in numbers are available. **STECF wishes to stress again that great care should be used in the interpretation of these data owing to the incomplete nature of information on discarded fish.**

5.6. Summary of effort and landings by 'unregulated' gears

In the summary tables of effort (for example in Section 6.2.1, 6.3.1 etc.) a total value for a 'none' category is provided. This 'none' category represents i) gear types and mesh sizes which are unregulated under Annex I, Coun. Reg. 1342/2008 in addition to ii) unidentified mesh sizes. In the main effort summary tables, this category is not broken down into its constituent gears. However, STECF SGMOS has provided a break down of the main gears within the 'none' category in a dedicated subsection for each area (for example Section 6.2.5, 6.3.5 etc). Information is given on effort (kW*days at sea) for gears such as 'beam', otter, pots, dredges etc, and for catches by these gears of key species (e.g. cod, plaice and sole). This analysis helps to identify which gears contribute significantly to landings of these species but which are not currently regulated.

With the adoption of the revised cod recovery plan towards the end of 2008 and the simplified list of regulated gears for which data are now collated, the compilation of the unregulated categories was more straightforward in 2009 and the data appear to be reliable.

It is important in making use of the data in this report, that the 'none' material is not counted more than once. It would be preferable to use data from the sections covering unregulated gears.

5.7. Presentation of under 10m information

This STECF-SGRST report provides an overview of landings and effort data provided by the experts regarding their national fisheries of vessels <10m, which are not obliged to report their landings through logbooks but rather do landings declarations.

Previously, information on vessels <10m has been provided in the STECF SGRST reports only as a series of individual country reports describing activities and landings. In this report individual country information is again provided where available – new information is provided from several countries. An attempt is also made to compile available information for each area into overall figures. Since not all countries were able to fulfil this part of the data call, the aggregate estimates for each region of the cod recovery zone must be considered as minimum estimates. Nevertheless, they begin to give an idea of the scale of landings contributed by these smaller classes of vessel and can be used to comment on the likely relative importance compared with the regulated vessels.

5.8. Presentation of spatial information on effective effort

STECF-SGRST notes that minimum geographic resolution in the available logbook information on landings and effective effort is by ICES rectangle and considers analyses to only be possible at that resolution at the present time. In a number of the smaller areas, however, this resolution is inadequate for describing any localised changes of effort distribution (for example, in the Kattegat) and finer scale is desirable. Increasing

availability of VMS data should provide opportunities for improved resolution in due course. The effective effort values of certain nations were given in days fished which were then converted to trawled hours by applying a factor of 24. STECF-SGRST notes that only major changes in the geographical distribution patterns should be given attention given the imprecision of the created data set. A full set of figures is available electronically but a selection of key gears is included in this report.

Figures use a common scale across years for a given category (e.g. TR1) but scales are unique to each category such that the colours assigned to statistical rectangles for category TR1 can not be compared directly to those assigned for category TR2 say. Figures use a percentiles scale, i.e. number of data values found in each colour band is the same. This is after data values across all years have been combined for that category.

6. REVIEW OF (ANNEX IIA TO REGULATION (EC) NO 43/2009) IN THE CONTEXT OF THE COD RECOVERY PLAN (REGULATION 423/2004)

6.1. General remarks

STECFSGMOS notes that this year represents a transition between the application of the original effort regulation regime and the adoption of the new cod plan (operational in 2009 for the first time). As such, this report contains, in places, data organised and presented according to both schemes. Efforts have been made to provide consistency in presentational approach and terminology but inevitably some inconsistencies exist.

STECF-SGMOS notes that assignment of derogations and special conditions under the old effort regime is based on best expert knowledge and data availability. Data errors may exist taking into consideration the very large size of data bases involved, (a known example is allocation of special conditions when no gear group is specified). STECF-SGMOS notes that table 1 of Annex IIA refers to special condition 4.c.iii.IIA8f but describes this as a special condition for gillnets and entangling nets with mesh size >= 220mm. Nets with this mesh size are defined under paragraph 4.c.iv.

The group emphasises that the assignment of some derogations and special conditions to the individual vessels (fleet aggregation) is based on its landings compositions in specified reference years but independent of its effort deployed in that fleet segment. Consequently, a vessel may be entitled to derogations including special conditions based on the landing composition of a single haul and thus realise certain flexibility in comparison with vessels with more constant activities.

Specific technical or gear configurations defined in the special conditions of the derogations are often not registered in the logbook databases, i.e. multi rigging, sorting or escapement devices (special conditions 8.1.a, b, j) or in-season management plans (8.1.d, h, i, k). STECF-SGRST notes that in-season information and fleet aggregations imply the direct involvement of the national control and enforcement institutions in the review process. STECF-SGRST recommends that to the fullest extent possible, national logbook data bases be made consistent with both the regulations defined in Annex IIA of the fishing opportunities regulation and the fleet-metier definitions defined under the revised data collection regulation (Council Reg. 199/2008).

For completeness, the historic trends in days at sea are provided below but since the revision of the cod plan at the end of 2008 and the introduction of member state

management of effort pots, EU controlled days at sea per vessel is no longer applicable in cod recovery areas so the table ends at 2008.

Allocations of effort in kW*days per member state and gear type for 2009 under the new cod plan regulations can be found in Appendix 1 to Annex II of Council Regulation 43/2009 (TAC and Quota Reg).

Table 6.1.1 Historic trends in days at sea by vessel specified in the Council Regulations since 2003.

Annex	AREA	REG GEAR	SPECON	2003	2004	2005	2006	2007	2008
IIA	2a	4ai	none	276	240	228	228	228	228
IIA	2a	4aii	IIA83b			252	365	365	365
IIA	2a	4aii	IIA83d		365	365	280	280	280
IIA	2a	4aii	none	300	264				
IIA	2a	4aiii	IIA83a			144	137	126	126
IIA	2a	4aiii	IIA83d		365	365	365	365	365
IIA	2a	4aiii	none	300	264	108	103	95	71
IIA	2a	4aiii deleted (2007)	IIA83b				365		
IIA	2a	4aiii new (2007)	IIA83l					132	132
IIA	2a	4aiv	IIA83a			144	137	137	137
IIA	2a	4aiv	IIA83c		168	156	148	148	148
IIA	2a	4aiv	IIA83d		365	365	365	365	353
IIA	2a	4aiv	none	108	120	108	103	103	103
IIA	2a	4av	IIA83a			144	137	137	137
IIA	2a	4av	IIA83c		180	168	160	160	160
IIA	2a	4av	IIA83d		365	365	365	365	365
IIA	2a	4av	IIA83h			120	115	115	115
IIA	2a	4av	IIA83j			144	149	149	103
IIA	2a	4av	none	108	120	108	103	103	103
IIA	2a	4ci	none	192	168	156	140	140	140
IIA	2a	4cii new (2007)	none	192	168	156	140	140	140
IIA	2a	4ciii new (2007) former 4cii	none	192	168	156	140	140	140
IIA	2a	4civ new (2007) former 4ciii	IIA83f		192	180	162	162	162
IIA	2a	4civ new (2007) former 4ciii	none	192	168	156	140	140	140
IIA	2a	4d	IIA83g				140	140	140
IIA	2a	4d	none	192	168	156	140	140	140
IIA	2a	4e	none	228	204	192	173	173	173
IIA	2b	4ai	none	276	240	228	228	228	228
IIA	2b	4aii	IIA83b				365	365	365
IIA	2b	4aii	IIA83d		365	365	280	280	280
IIA	2b	4aiv	IIA83c		168	156	148	148	148
IIA	2b	4aiv	IIA83d		365	365	365	365	365
IIA	2b	4aiv	none	108	120	108	103	95	86
IIA	2b	4av	IIA83c		180	168	160	160	160
IIA	2b	4av	IIA83d		365	365	365	365	365
IIA	2b	4av	IIA83h			120	115	115	115
IIA	2b	4av	none	108	120	108	103	96	86
IIA	2b	4ci	none		168	156	140	140	140
IIA	2b	4cii new (2007)	none		168	156	140	140	126
IIA	2b	4ciii new (2007) former 4cii	none		168	156	140	130	117
IIA	2b	4civ new (2007) former 4ciii	none		168	156	140	140	140
IIA	2b	4d	none		168	156	140	140	140
IIA	2b	4e	none		204	192	173	173	173
IIA	2b1	4aii	IIA83b			252	365	365	365
IIA	2b1	4aii	none	300	264				
IIA	2b1	4aiii	IIA83a			144	137	126	126
IIA	2b1	4aiii	IIA83d		365	365	365	365	365
IIA	2b1	4aiii	none	300	264	108	103	95	86
IIA	2b1	4aiii new (2007)	IIA83l					132	132

Table 6.1.1 continued.

IIA	2b1	4aiv	IIA83a		144	137	137	137
IIA	2b1	4av	IIA83a		144	137	137	137
IIA	2b1	4av	IIA83j		144	149	149	149
IIA	2b1	4ciii	IIA83f			140	140	140
IIA	2b12	4bi	none	180	168	156	143	132	119
IIA	2b12	4bii	none	180	168	156	143	143	143
IIA	2b12	4biii	IIA83c			156	155	155	155
IIA	2b12	4biii	IIA83i				155	155	155
IIA	2b12	4biii	none	180	168	156	143	143	129
IIA	2b12	4biv	IIA83c			168	155	155	155
IIA	2b12	4biv	IIA83e				155	155	155
IIA	2b12	4biv	IIA83i				155	155	155
IIA	2b12	4biv	none	180	168	156	143	143	129
IIA	2b12	4d	IIA83g				140	140	140
IIA	2b12	4d	none	192	168	156	140	140	140
IIA	2b12	4e	none	228	204	192	173	173	173
IIA	2b2	4aii new (2007)	none	300	264	252	227	204	184
IIA	2b2	4aii new (2007)	IIA83c					215	215
IIA	2b2	4aiv	IIA83a			144	103	103	103
IIA	2b2	4av	IIA83a			144	103	103	103
IIA	2b2	4ciii	IIA83f		192	180	162	162	162
IIA	2b23	4aii deleted (2007)	none		264	252	227		
IIA	2b23	4aiii	IIA83a				227	227	227
IIA	2b23	4aiii	IIA83d		365	365	280	280	280
IIA	2b23	4aiii	none		264	252	227	209	188
IIA	2b23	4aiii new (2007)	IIA83l					238	238
IIA	2b23	4aiv	IIA83a				103	103	103
IIA	2b23	4av	IIA83a				103	103	103
IIA	2b23	4av	IIA83j				115	115	115
IIA	2b23	4av new (2007)	IIA83jh					127	127
IIA	2b3	4aii new (2007)	none		264	252	227	221	199
IIA	2b3	4aii new (2007)	IIA83c					227	227
IIA	2b3	4av	IIA83a				103	103	103
IIA	2b3	4bi	none	180	168	156	365	365	365
IIA	2b3	4bii	none	180	168	156	365	365	365
IIA	2b3	4biii	IIA83c			156	365	365	365
IIA	2b3	4biii	IIA83i				365	365	365
IIA	2b3	4biii	none	180	168	156	365	365	365
IIA	2b3	4biv	IIA83c			168	365	365	365
IIA	2b3	4biv	IIA83e				365	365	365
IIA	2b3	4biv	IIA83i				365	365	365
IIA	2b3	4biv	none	180	168	156	365	365	365
IIA	2b3	4ciii	IIA83f				140	140	140
IIA	2b3	4d	IIA83g		240	228	205	205	185
IIA	2c	4ai	none		240	228	228	228	228
IIA	2c	4aii	IIA83b				365	365	365
IIA	2c	4aii	IIA83d		365	365	280	280	280
IIA	2c	4aii	none		264	252	227	204	184
IIA	2c	4aii new (2007)	IIA83c					204	204
IIA	2c	4aiii	IIA83a				227	227	227
IIA	2c	4aiii	IIA83d		365	365	280	280	280
IIA	2c	4aiii	none		264	252	227	227	227
IIA	2c	4aiii deleted (2007)	IIA83b				365		
IIA	2c	4aiii new (2007)	IIA83l					238	238
IIA	2c	4aiv	IIA83a				114	114	114
IIA	2c	4aiv	IIA83c		168	156	148	148	148
IIA	2c	4aiv	IIA83d		365	365	365	276	276
IIA	2c	4aiv	IIA83k				166	166	166
IIA	2c	4aiv	none		120	120	114	105	86

Table 6.1.1 continued.

IIA	2c	4av	IIA83a			114	114	114
IIA	2c	4av	IIA83c	180	168	160	160	160
IIA	2c	4av	IIA83d	365	365	365	365	365
IIA	2c	4av	IIA83h		120	126	126	126
IIA	2c	4av	IIA83j			126	126	126
IIA	2c	4av	IIA83k			178	178	178
IIA	2c	4av	none	120	120	114	114	114
IIA	2c	4av new (2007)	IIA83jh				138	138
IIA	2c	4bi	none	168	156	143	132	132
IIA	2c	4bii	none	168	156	143	143	143
IIA	2c	4biii	IIA83c		156	155	155	155
IIA	2c	4biii	IIA83i			155	155	155
IIA	2c	4biii	none	168	156	143	143	143
IIA	2c	4biv	IIA83c		168	155	155	155
IIA	2c	4biv	IIA83e			155	155	155
IIA	2c	4biv	IIA83i			155	155	155
IIA	2c	4biv	none	168	156	143	143	143
IIA	2c	4ci	none	168	156	140	140	140
IIA	2c	4cii new (2007)	none	168	156	140	140	140
IIA	2c	4ciii new (2007) former 4cii	none	168	156	140	140	115
IIA	2c	4civ new (2007) former 4ciii	IIA83f			140	140	140
IIA	2c	4civ new (2007) former 4ciii	none	168	156	140	140	140
IIA	2c	4d	IIA83g			140	140	140
IIA	2c	4d	none	168	156	140	140	140
IIA	2c	4e	none	204	192	173	173	173
IIA	2d	4ai	none	276	240	228	228	228	228
IIA	2d	4aii	IIA83b				365	365	365
IIA	2d	4aii	IIA83d	365	365	280	252	252
IIA	2d	4aii	none	300	264	252	227	227	204
IIA	2d	4aii new (2007)	IIA83c				227	227
IIA	2d	4aiii	IIA83a			227	227	227
IIA	2d	4aiii	IIA83d	365	365	280	280	280
IIA	2d	4aiii	none	300	264	252	227	227	227
IIA	2d	4aiii deleted (2007)	IIA83b			365		
IIA	2d	4aiii new (2007)	IIA83l				238	238
IIA	2d	4aiv	IIA83a			91	91	91
IIA	2d	4aiv	IIA83c	168	156	148	148	148
IIA	2d	4aiv	IIA83d	365	365	365	276	276
IIA	2d	4aiv	none	108	120	96	91	84	69
IIA	2d	4av	IIA83a				91	91	91
IIA	2d	4av	IIA83c	180	168	160	160	160
IIA	2d	4av	IIA83d	365	365	365	279	279
IIA	2d	4av	IIA83h		120	103	103	103
IIA	2d	4av	IIA83j			103	103	103
IIA	2d	4av	none	108	120	96	91	85	70
IIA	2d	4av new (2007)	IIA83jh				115	115
IIA	2d	4bi	none	180	168	156	143	143	143
IIA	2d	4bii	none	180	168	156	143	143	143
IIA	2d	4biii	IIA83c		156	155	155	155
IIA	2d	4biii	IIA83i			155	155	155
IIA	2d	4biii	none	180	168	156	143	143	143
IIA	2d	4biv	IIA83c		168	155	155	155
IIA	2d	4biv	IIA83e			155	155	155
IIA	2d	4biv	IIA83i			155	155	155
IIA	2d	4biv	none	180	168	156	143	143	143
IIA	2d	4ci	none	192	168	156	140	140	140
IIA	2d	4cii new (2007)	none	192	168	156	140	140	140
IIA	2d	4ciii new (2007) former 4cii	none	192	168	156	140	140	140
IIA	2d	4civ new (2007) former 4ciii	IIA83f				140	140	140
IIA	2d	4civ new (2007) former 4ciii	none	192	168	156	140	140	140
IIA	2d	4d	IIA83g				140	140	140
IIA	2d	4d	none	192	168	156	140	140	140
IIA	2d	4e	none	228	204	192	173	173	173

6.2. Regional Area 3a: Kattegat

All Member States fishing in this area have reported their effort data, including mesh size range category and derogations and the overall confidence in the results are high. The total nominal effort in the Kattegat decreased by 35 % between the years 2002-2008.

Fisheries in the Kattegat are dominated by Denmark and Sweden using predominantly trawls (accounting for about 85 % of the total effort in 2008), primarily in the gear class TR2 (almost 75%). Beam trawls are forbidden although there was a suggestion this year that Dutch beam trawlers visited the Kattegat although to a very limited extent. The spatial distribution plots (section 6.2.7) of the effort deployed by the Dutch beam trawlers however suggest that this appearance was due to incorrectly reported data.

The effort deployed by passive gears (GN1, GT and LL1) is relatively small (approximately 5 % of total effort in 2008). The amount of unregulated effort (effort that could not be assigned to the existing gear categories) was around 7% in 2008 (see section 6.5 for further elaboration).

The highest uptake of any special condition within a gear group in 2008 is the sorting grid, IIA83b, in the aii gear category representing 94 % of the effort. This is due to the fact that this gear class is only allowed to be used with this special condition.

The effort deployed in Gross tonnage days (GTdays) and number of vessels can be found on the website (https://stecf.jrc.ec.europa.eu/meetings/2009?p_p_id=62_INSTANCE_ujGU&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_ujGU_struts_action=%2Fjournal_articles%2Fview&_62_INSTANCE_ujGU_groupId=1416&_62_INSTANCE_ujGU_articleId=132840&_62_INSTANCE_ujGU_version=1.0).

6.2.1. Trend in effort by gear group and derogation in management area 2a: Kattegat

Trends in effort by new cod plan gear groups and country are shown in Table 6.2.1.1. the predominance of Swedish and Danish effort can clearly be seen.

Table 6.2.1.1 Kattegat: Trend in nominal effort (Kw *days at sea) by Gear group and country. 2000-2008.

Reg Area	Gear	Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	Rel 2002
3a	BT1	NED			1105	43497	106095	112548	52443	94635	22570	19.42534
3a	BT2	DEN	122									
3a		NED	4199	884		559111	432146	431526	292535	328672	72040	
3a	GN1	DEN	276367	293817	337354	184730	111650	130267	104450	72977	66270	-0.803559
3a		GER	1932	800	11474	13612	14289	26827	38486	39725	31562	1.750741
3a		SWE	27081	15819	12629	20309	17690	9609	14748	14949	32697	1.589041
3a	GT1	DEN	16092	21789	17992	15923	14791	28221	24922	12119	11758	-0.346487
3a		SWE	27228	22200	24690	25558	11254	12833	19178	34170	29266	0.185338
3a	LL1	DEN	711	25397	56410	3240	3080		220			-1
3a		SWE	749	2080	3652	5683	1376	10684	27478	37856	25234	5.909639
3a	TR1	DEN	806137	791921	559046	201816	192240	206822	194725	189935	159122	-0.715369
3a		GER	11592	8183	870	894	2390	4985	5262	5526	1964	1.257471
3a		NED								366	5837	
3a		SWE	228992	169826	87451	44370	15121	24870	5160	19799	57592	-0.341437
3a	TR2	DEN	3625273	3796837	3201620	3473427	3060578	2547924	2261520	2027821	2153961	-0.327228
3a		GER	47841	8581	24240	35966	31861	7505	10318	35338	38716	0.597195
3a		NED				5260						
3a		SWE	1602940	1574981	1273312	1369635	1043622	1046257	1228296	1275042	1227656	-0.035856
3a	TR3	DEN	322100	520139	525931	716139	564252	556158	448969	363339	209408	-0.601834
3a		GER	1989									
3a		SWE	34860	58078	29714	33717	34056	53585	69015	44959	17157	-0.422595
3a	None	All	459461	615354	625208	677065	610862	654350	650512	643147	441106	-0.294465
	Total		7495666	7926686	6792698	7429952	6267353	5864971	5448237	5240375	4603916	-0.322226

Table 6.2.1.2 summarises the effort by cod plan gear categories. TR2 dominates the effort in recent years. Table 6.2.1.3 shows the effort according to the old Annex II categories, again the smaller meshed trawls can clearly be seen as most important.

Table 6.2.1.2 Kattegat: Trend in nominal effort (Kw *days at sea) by Gear group. 2000-2008.

Reg Area	Gear	2000	2001	2002	2003	2004	2005	2006	2007	2008	Rel 2002
3a	BT1			1105	43497	106095	112548	52443	94635	22570	19.42534
3a	BT2	4321	884		559111	432146	431526	292535	328672	72040	
3a	GN1	305380	310436	361457	218651	143629	166703	157684	127651	130529	-0.638881
3a	GT1	43320	43989	42682	41481	26045	41054	44100	46289	41024	-0.038845
3a	LL1	1460	27477	60062	8923	4456	10684	27698	37856	25234	-0.579867
3a	TR1	1046721	969930	647367	247080	209751	236677	205147	215626	224515	-0.653187
3a	TR2	5276054	5380399	4499172	4884288	4136061	3601686	3500134	3338201	3420333	-0.239786
3a	TR3	358949	578217	555645	749856	598308	609743	517984	408298	226565	-0.592249
	None	459461	615354	625208	677065	610862	654350	650512	643147	441106	-0.294465
Total		7495666	7926686	6792698	7429952	6267353	5864971	5448237	5240375	4603916	-0.322226

Table 6.2.1.3 Kattegat: Trend in nominal effort (Kw *days at sea) by derogation 2000-2008.

REG AREA	REG GEAR	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008	Rel. Change 2002
2a	4ai	none	358949	578217	555645	749856	598308	609743	517984	408298	226565	-0.592249
2a	4aii	IIA83b					9912	113989	165425	233076	307336	
2a		none	2391115	2016215	1618411	1532115	206170	52050	3973	13943	4616	-0.997148
2a	4aiii	IIA83a						546830	1333747	1370009	2130194	
2a		IIA83l							220977	13909		
2a		none	2884939	3364184	2880761	3352173	3919979	2888817	1776012	1707264	978187	-0.660441
2a	4aiv	IIA83a							6489	13531	31696	
2a		none	940924	912270	551569	144454	176705	195257	170117	163857	113570	-0.794096
2a	4av	IIA83a								6966	62839	
2a		IIA83c									64	
2a		IIA83j							7125	723	2104	
2a		none	105797	57660	95798	102626	33046	41420	21416	30549	14242	-0.851333
2a	4bi	none					14341					
2a	4bii	none				201255	245319	302113	163289	147132	39050	
2a	4biii	none	4321	884		357856	172486	129413	129246	181540	32990	
2a	4biv	none			1105	43497	106095	112548	52443	94635	22570	19.42534
2a	4ci	none	140403	87787	96898	44123	37756	105762	95694	69268	59908	-0.381742
2a	4cii	none	103345	131265	141845	95884	70355	48014	49588	39917	50264	-0.645641
2a	4ciii	none	50138	58585	75673	18810	5298	4889	5889	8098	10374	-0.86291
2a	4civ	none	10598	31846	45925	59097	29661	7439	6129	10113	9983	-0.782624
2a	4d	none	43320	43989	42682	41481	26045	41054	44100	46289	41024	-0.038845
2a	4e	none	1460	27477	60062	8923	4456	10684	27698	37856	25234	-0.579867
2a	none	none	460357	616307	626324	677802	611421	654949	650896	643402	441106	-0.295722
Total			7495666	7926686	6792698	7429952	6267353	5864971	5448237	5240375	4603916	-0.322226

Table. 6.2.1.4 Kattegat: Relative change in nominal effort 2008 data submission compared to 2007 submission (Kw *days at sea) by gear, derogation and country 2000-2007.

ANNEX	REG AREA	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
IIa	2a	4ai	none	DEN	29%	37%	-7%	33%	62%	76%	73%	115%
IIa	2a	4ai	none	GER	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4ai	none	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4aii	IIA83b	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4aii	none	DEN	-4%	-8%	-9%	-8%	-1%	1%	-10%	101%
IIa	2a	4aii	none	GER	-21%	0%	-33%	-35%	-29%	0%	0%	-12%
IIa	2a	4aii	none	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4aiii	IIA83a	DEN	0%	0%	0%	0%	0%	0%	66%	102%
IIa	2a	4aiii	IIA83a	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4aiii	IIA83l	DEN	0%	0%	0%	0%	0%	0%	102%	0%
IIa	2a	4aiii	none	DEN	-7%	-2%	-5%	-3%	-3%	-4%	-32%	-33%
IIa	2a	4aiii	none	GER	809%	-30%	-31%	-30%	-18%	-5%	-46%	-25%
IIa	2a	4aiii	none	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4aiv	IIA83a	DEN	0%	0%	0%	0%	0%	0%	-90%	-82%
IIa	2a	4aiv	IIA83a	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4aiv	none	DEN	-1%	-5%	36%	39%	98%	127%	48%	54%
IIa	2a	4aiv	none	GER	19%	-2%	0%	0%	400%	101%	0%	154%
IIa	2a	4aiv	none	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4av	IIA83a	DEN	0%	0%	0%	0%	0%	0%		0%
IIa	2a	4av	IIA83a	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4av	IIA83c	DEN	0%	0%			0%		0%	0%
IIa	2a	4av	IIA83j	DEN	0%	0%	0%	0%	0%	0%	-41%	-66%
IIa	2a	4av	none	DEN	35%	31%	26%	-3%	21%	78%	-57%	24%
IIa	2a	4av	none	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4biii	none	DEN	1%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4ci	none	DEN	22%	20%	-16%	26%	-8%	8%	-8%	-7%
IIa	2a	4ci	none	GER	0%	0%	-3%	-2%	3%	-6%	-3%	-3%
IIa	2a	4ci	none	SWE	-88%	-48%	0%	-2%	-30%	-83%	-53%	-33%
IIa	2a	4cii	none	DEN	-3%	-6%	16%	-59%	1%	-25%	-35%	-33%
IIa	2a	4cii	none	GER	0%	0%	0%	0%	0%	0%	-28%	0%
IIa	2a	4cii	none	SWE	-57%	-74%	-76%	-76%	-57%	-67%	-66%	-89%
IIa	2a	4ciii	none	DEN	22%	2%	12%	-46%	-32%	-39%	-44%	-35%
IIa	2a	4ciii	none	GER	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	4ciii	none	SWE	-7%	-2%	0%	0%	-66%	-38%	-34%	-5%
IIa	2a	4civ	none	DEN	-22%	-1%	63%	-17%	-8%	20%	-24%	-35%
IIa	2a	4civ	none	SWE	0%	0%	-6%	0%	0%	-1%	-15%	-5%
IIa	2a	4d	none	DEN	6522%	0%	0%	1259%	3792%	445%	1030%	865%
IIa	2a	4e	none	DEN	503%	570%	0%	0%	0%	0%	0%	0%
IIa	2a	4e	none	SWE	0%	0%	0%	0%	0%	0%	0%	0%
IIa	2a	none	none	DEN	0%	-1%	10%	-10%	-12%	-16%	-11%	21%
IIa	2a	none	none	GER	0%	0%	0%	0%	0%	0%	-29%	0%
IIa	2a	none	none	SWE	-36%	-40%	-42%	-44%	-42%	-43%	-38%	-38%

There are some major changes shown in table 6.2.1.4. All countries have adjusted their numbers (see description of each countries data section 5). Some changes are large in terms of percent but small in terms of contribution to the total effort.

The time trends in effort are shown graphically in Figures 6.2.1.1 for the new cod plan (all gears and trawl) and in Figure 6.2.1.2 and 6.2.1.3 for the old Annex (all gears and trawl). Overall effort has dropped largely through reductions in trawl effort.

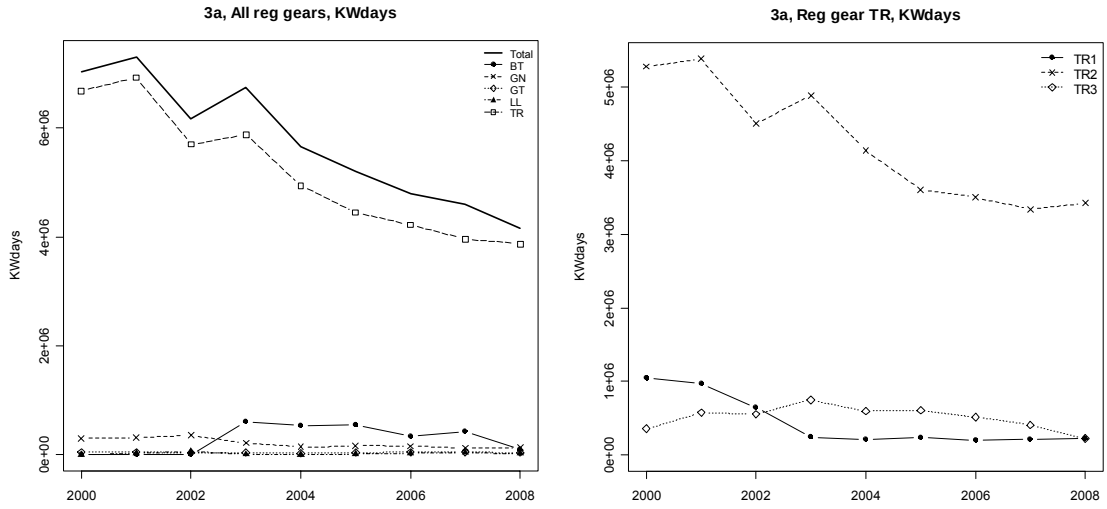


Figure 6.2.1.1. Kattegat: Trend in nominal effort (Kw *days at sea) by gear types, 2000-2008. Left:.TR = demersal trawl, BT = Beam trawl, GN = Gillnet, GT = Trammel net, LL = Longline.Right, effort by gear types within gear type TR; TR1=mesh size ≥100mm; TR2=mesh size ≥70, ≤100mm; TR3 ≥16, ≤32 mm.

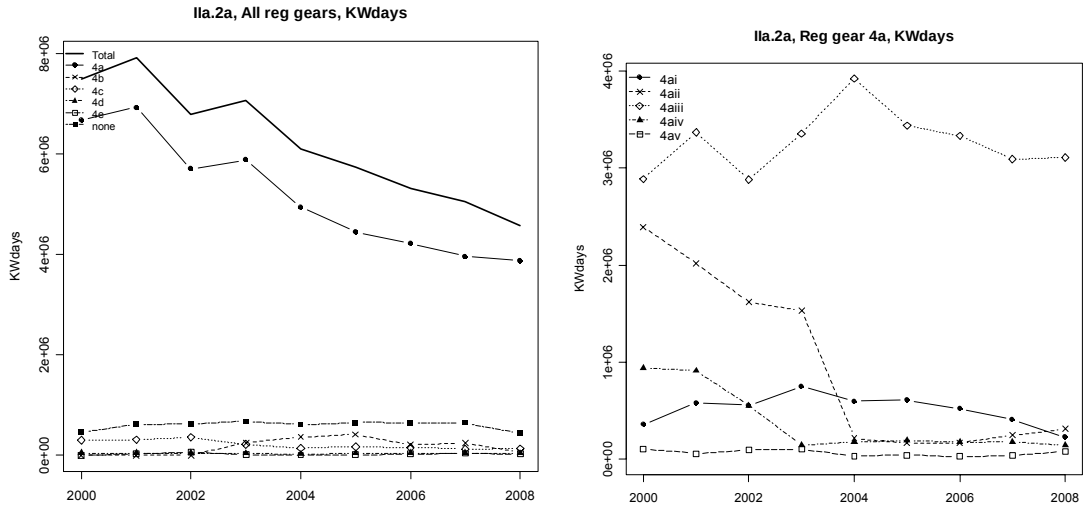


Figure 6.2.1.2. Kattegat: Trend in nominal effort (Kw *days at sea) by gear types, 2000-2007. Left: 4a = demersal trawl, 4b = Beam trawl, 4c = Gillnet, 4d = Trammel net, 4e = Longline.. Right: Trend in nominal effort for demersal trawl by mesh size range, 2000-2008. Left: 4ai=16-31 mm, 4aii=70-89 mm, 4aiii = 90-99 mm, 4aiv = 100-119 mm, 4av = 120+ mm.

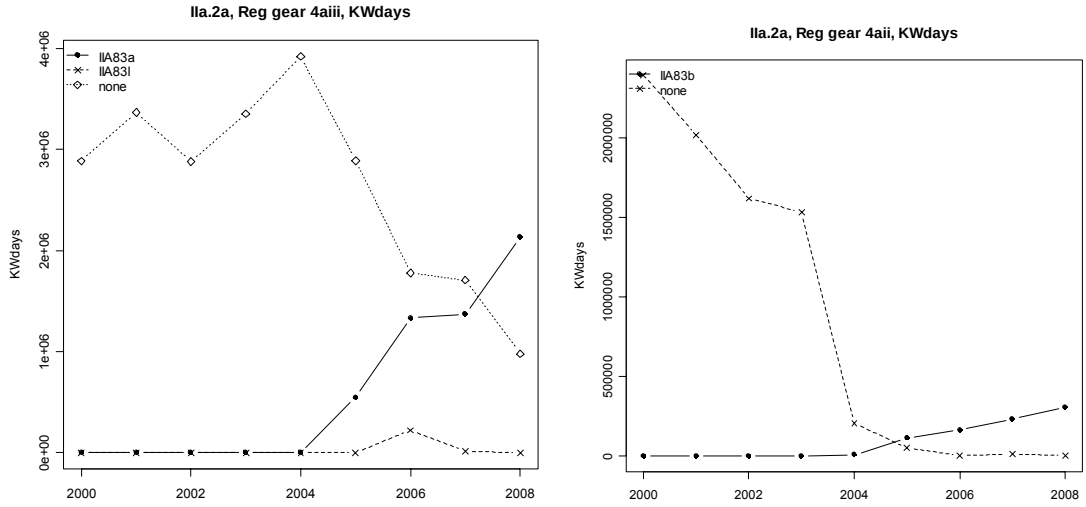


Figure 6.2.1.3. Kattegat:Trend in nominal effort for demersal trawl by mesh size range and derogation in the demersal trawl fishery. Left: gear type 4aiii; derogation IIA81a =120 mm escape window; IIA81l = 95 mm escape window. Right: gear type 4aii derogation IIA81b = "Swedish grid".

6.2.2. Catch

Landings and discards of cod, sole and plaice by cod plan gear category are shown in Tables 6.2.2.1 to 6.2.2.3. Discard rates are also presented. Discards are only evident in the trawl gears.

Table 6.2.2.1 Landings(L) , discard (D) and discard rate (R) of cod by Gear 2003-2008.

ANNEX	SPECIES	REG_AREA	REG_GEAR	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
IIa	COD	3a	GN1	87			35			25			25			28			44		
IIa	COD	3a	GT1	21			14			7			3			4			4		
IIa	COD	3a	LL1	20			2			1			3						14		
IIa	COD	3a	TR1	204	66	0.24	108	71	0.4	117	38	0.25	49	9	0.16	83	41	0.33	33	4	0.11
IIa	COD	3a	TR2	1587	733	0.32	961	1260	0.57	629	612	0.49	630	2043	0.76	452	795	0.64	298	12073	0.98
IIa	COD	3a	TR3	79			29			18			53			12			7		

Table 6.2.2.2 Landings, discard and discard rate of sole by Gear 2003-2008.

ANNEX	SPECIES	REG_ARE	REG_GEA	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
IIa	SOL	3a	GN1	31			33			108			100			64			57		
IIa	SOL	3a	GT1	5			4			17			16			15			16		
IIa	SOL	3a	TR1	5	3	0.38	4			10			17			9	7	0.44	7	2	0.22
IIa	SOL	3a	TR2	125	8886	0.99	160	70	0.3	244	25	0.09	265	85	0.24	209	31	0.13	211	940	0.82
IIa	SOL	3a	TR3	1																	

Table 6.2.2.3 Landings, discard and discard rate of plaice by Gear 2003-2008.

ANNEX	SPECIES	REG_AREA	REG_GEAR	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
IIa	PLE	3a	GN1	110			110			74			70			62			58		
IIa	PLE	3a	GT1	57			34			36			44			28			39		
IIa	PLE	3a	LL1																		
IIa	PLE	3a	TR1	259	675	0.72	315	138	0.3	391	186	0.32	468	181	0.28	432	225	0.34	272	121	0.31
IIa	PLE	3a	TR2	1539	4160	0.73	770	1153	0.6	477	602	0.56	675	713	0.51	572	1179	0.67	467	584	0.56
IIa	PLE	3a	TR3	20			9			7			1			5			1		

Figures 6.2.2.1 to 6.2.2.3 show the landings and discards of various species take in trawl gears

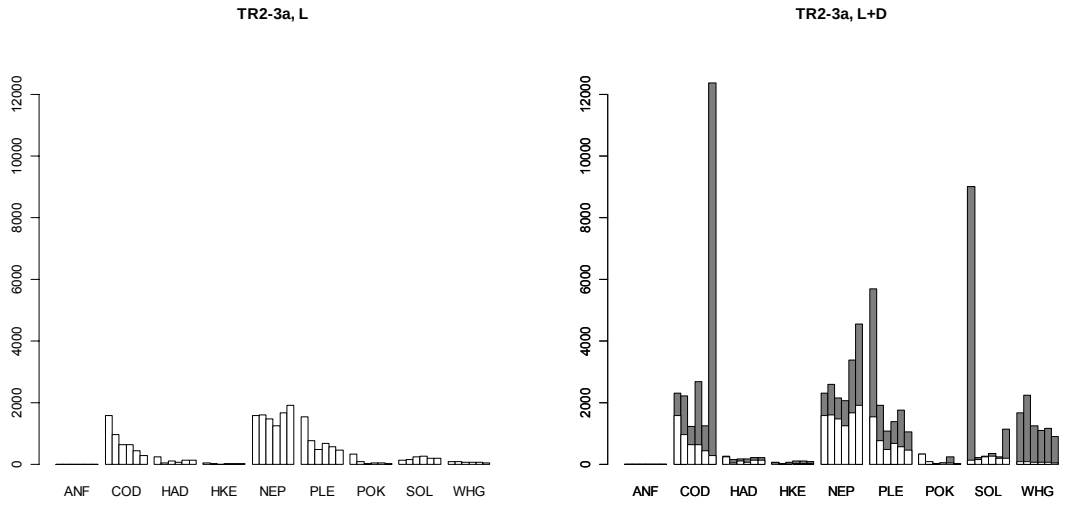


Fig 6.2.2.1 Landings (left) and catch (landings and discard) of TR2 in area 3a Kattegat 2003-2008.

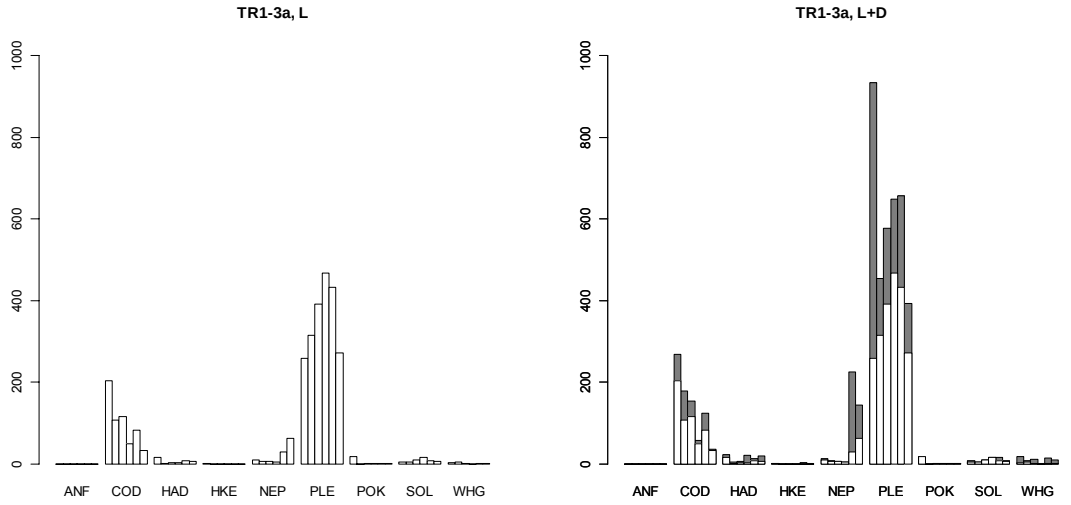


Fig 6.2.2.2 Landings (left) and catch (landings and discard) of TR1 in area 3a Kattegat 2003-2008.

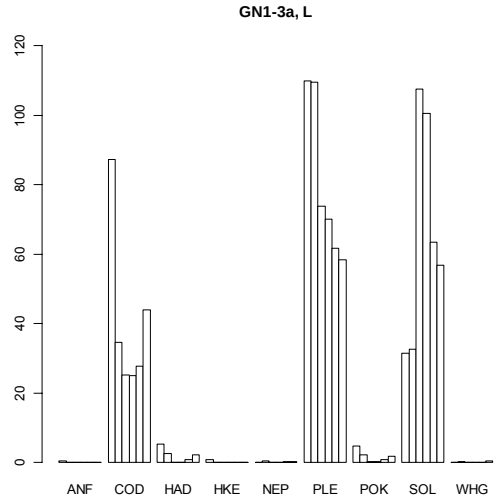


Fig 6.2.2.3 Landings (left) and catch (landings and discard) of TR1 in area 3a Kattegat 2003-2008.

The large difference between catch data for TR2 and TR1 compared to the data for landings of cod illustrate a major problem with the use of discard data in this context. There is for example an extremely high estimate of 12073 tonnes of cod discarded by TR2 gear in 2008. There is a lack of confidence in the reliability of the discard estimates and hence also the CPUE values. This observation justifies why subsequent substantive conclusions are made using landings numbers and LPUE estimates.

The discard sampling between the countries in terms of number of trips sampled, is the reason behind this large discrepancy. There are several aspects that bias the use of discard data within a gear group between countries. The example of the discard estimate of Kattegat cod clearly shows the weaknesses of uncritically extrapolating discard data across MS as well as the problem of using single species ratios for raising and extrapolating discard data. The main problem with the estimate in the Kattegat seems to be that the Swedish rate (IIa83a) from the third quarter (when it was prohibited to land cod in Sweden and the discard rate for obvious reasons are very high) have been used to extrapolate a discard estimate from the Danish landings in the same quarter. The resulting discard estimate exceeds the estimate of the size of the total stock.

Furthermore, in Kattegat the differences in national management systems as well as differences in fishing patterns mean that it is not possible to consider the Swedish discard data representative for the Danish or German fishery (or *vice versa*). In Sweden the fishery is managed by weekly quotas while Denmark in 2007 introduced individual vessel quotas. The fishery in Sweden is also characterised by long periods of prohibition for landing certain species, particularly cod. In 2006 the cod fishery in Kattegat was closed for 8 months and in 2008 for the whole of the third quarter. The different management regimes have implications on the discard patterns of fish, particularly fish discarded for quota reasons this is an important problem in the case of cod in the Kattegat.

For the remainder of this section, only values of landings and LPUE estimates are used for ranking between gears although CPUE values and catch at age figures are shown.

Catch numbers at age of cod and plaice are shown in Figure 6.2.2.4 and 6.2.2 5 respectively.

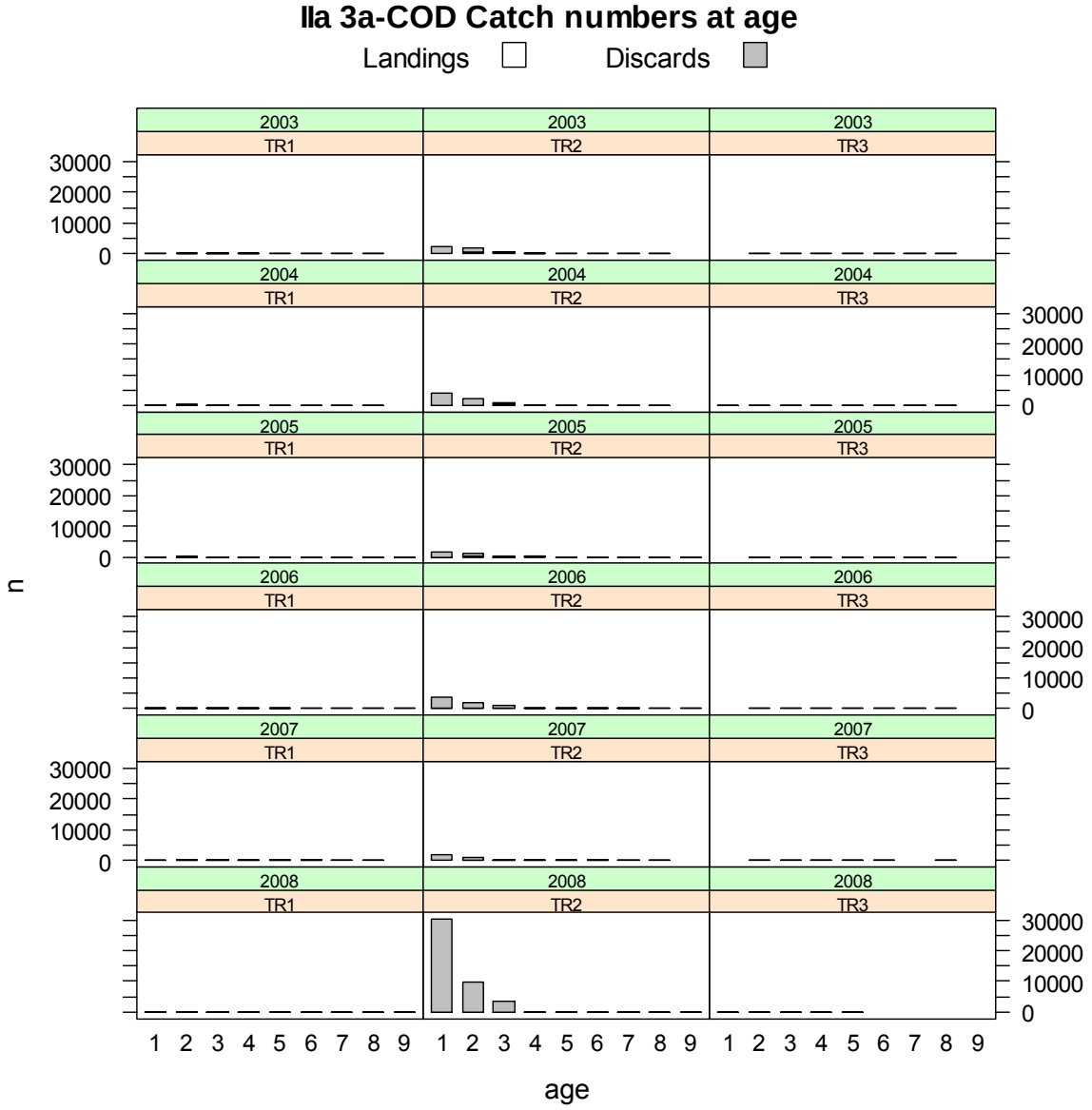


Fig 6.2.2.4 Landings and discards by age of Cod in gear group TR1;TR2;TR3 in area 3a Kattegat 2003-2008.

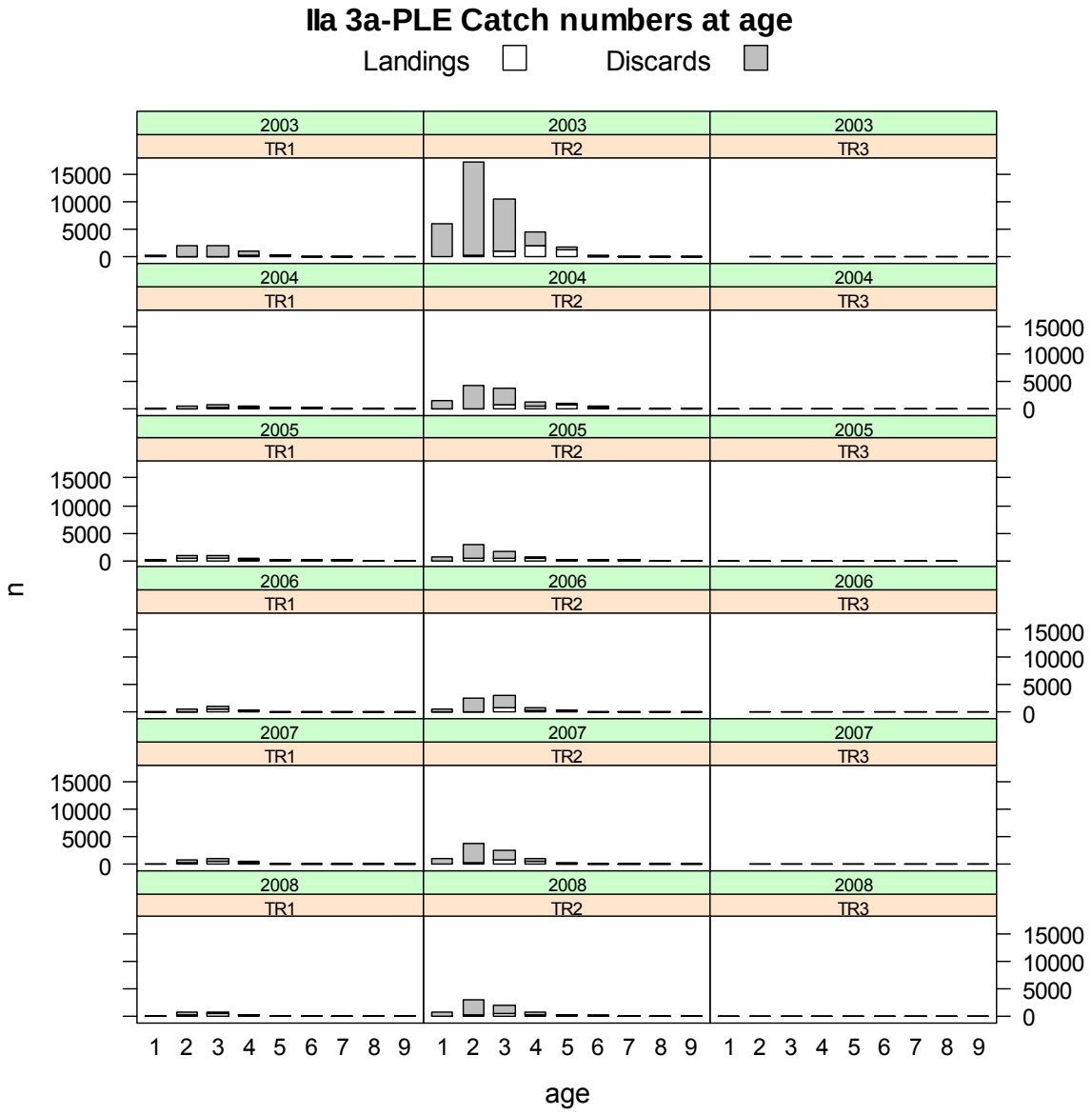


Fig 6.2.2.5 Landings and discards by age of Plaice in gear group TR1;TR2;TR3 in area 3a Kattegat 2003-2008.

6.2.3. Landings Per Unit of Effort (LPUE) and Catches Per Unit Effort (CPUE) of cod, sole and plaice in area 2A Kattegat

The Tables below show CPUE and LPUE of cod, plaice and sole between 2003-2008.

Table 6.2.3.1 CPUE of cod, sole, plaice by gear 2003-2008

ANNEX	SPECIES	REG AREA	REG GEAR	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008
IIa	COD	3a	GN1	398	244	156	159	219	337
IIa	COD	3a	GT1	482	538	171	68	86	98
IIa	COD	3a	LL1	2241	449	94	108	0	555
IIa	COD	3a	TR1	1085	858	651	288	580	151
IIa	COD	3a	TR2	475	537	345	764	374	3617
IIa	COD	3a	TR3	105	48	30	102	29	31
IIa	PLE	3a	GN1	499	766	438	444	486	452
IIa	PLE	3a	GT1	1374	1344	877	998	583	975
IIa	PLE	3a	LL1	0					
IIa	PLE	3a	TR1	3776	2164	2438	3164	3042	1755
IIa	PLE	3a	TR2	1167	465	300	397	525	307
IIa	PLE	3a	TR3	27	15	11	2	12	4
IIa	SOL	3a	GN1	142	223	642	641	494	437
IIa	SOL	3a	GT1	145	154	390	385	324	390
IIa	SOL	3a	TR1	28	19	38	78	74	31
IIa	SOL	3a	TR2	1845	56	74	99	72	337
IIa	SOL	3a	TR3	1	0	0	0	0	0

Table 6.2.3.2 LPUE of cod, sole, plaice by gear 2003-2008

ANNEX	SPECIES	REG AREA	REG GEAR	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
IIa	COD	3a	GN1	398	244	156	159	219	337
IIa	COD	3a	GT1	482	538	171	68	86	98
IIa	COD	3a	LL1	2241	449	94	108	0	555
IIa	COD	3a	TR1	826	520	494	239	385	138
IIa	COD	3a	TR2	325	233	174	180	135	87
IIa	COD	3a	TR3	105	48	30	102	29	31
IIa	PLE	3a	GN1	499	766	438	444	486	452
IIa	PLE	3a	GT1	1374	1344	877	998	583	975
IIa	PLE	3a	LL1	0					
IIa	PLE	3a	TR1	1048	1507	1648	2281	2003	1212
IIa	PLE	3a	TR2	315	186	132	192	172	136
IIa	PLE	3a	TR3	27	15	11	2	12	4
IIa	SOL	3a	GN1	142	223	642	641	494	437
IIa	SOL	3a	GT1	145	154	390	385	324	390
IIa	SOL	3a	TR1	16	19	38	78	42	27
IIa	SOL	3a	TR2	26	39	68	75	63	62
IIa	SOL	3a	TR3	1	0	0	0	0	0

The figures below show CPUE and LPUE of cod, plaice and sole between 2003-2008. The four gear categories with the highest CPUE for cod are shown. Plaice and sole results are shown for the gears most important in their capture.

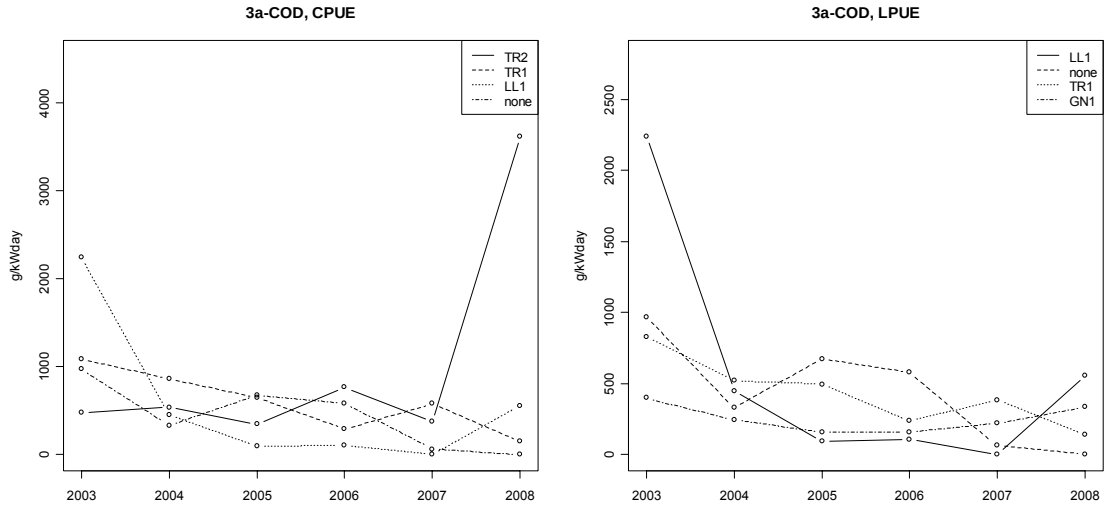


Figure 6.2.3.1 Left: CPUE of cod by gear category. Right: LPUE of cod by gear category 2003-2008

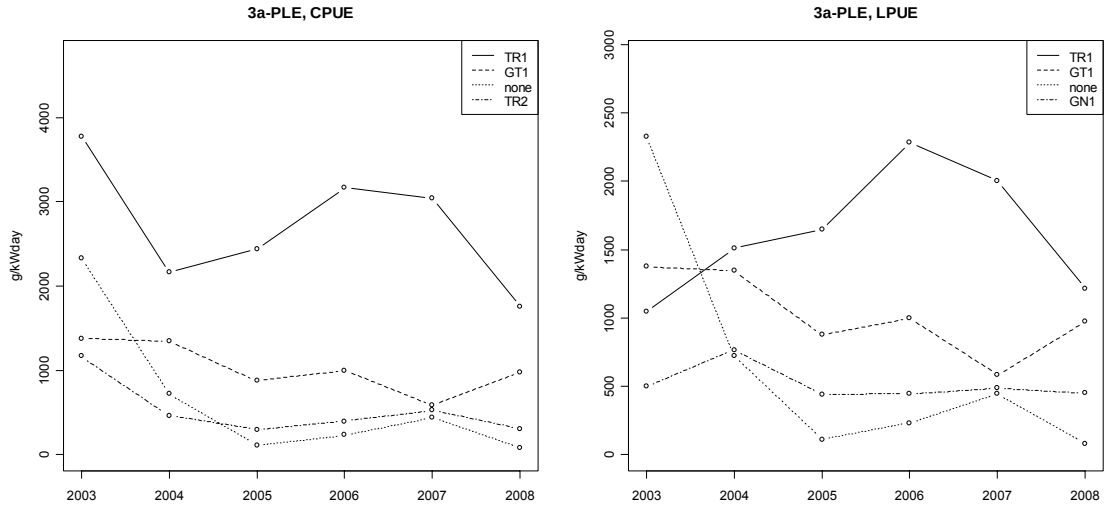


Figure 6.2.3.2 Left: CPUE of plaice by gear category. Right: LPUE of plaice by gear category 2003-2008

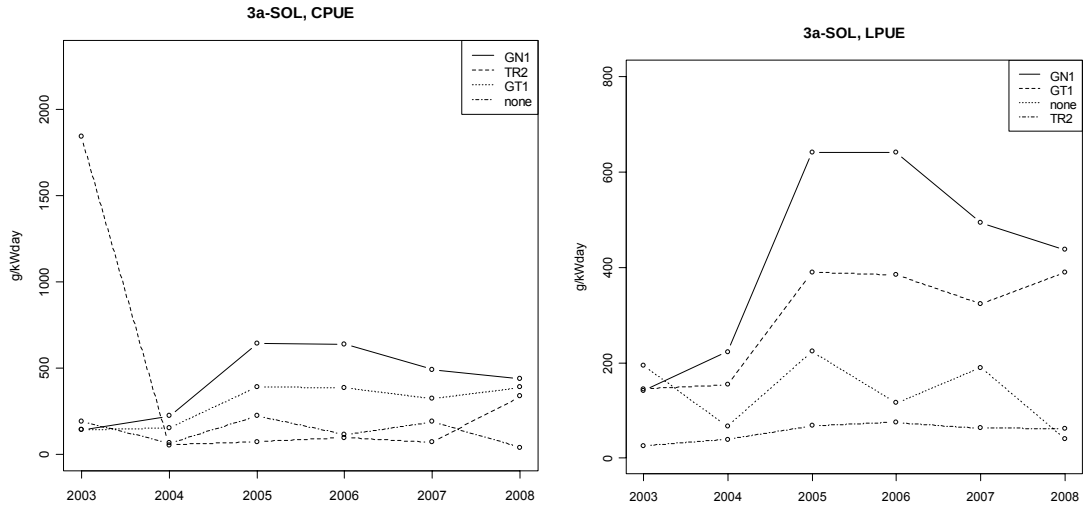


Figure 6.2.3.2. Left: CPUE of sole by gear category. Right: LPUE of sole by gear category 2003-2008

6.2.4. Ranked derogations

Rankings of gears of in terms of catches and landings are shown in Tables 6.2.4.1 and 6.2.4.2.

Table 6.2.4.1 Ranked gear Categories according to the proportional catches of Cod, Plaice and Sole 2003-2008

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
IIa	3a	COD	TR2	0.82	0.89	0.85	0.94	0.88	0.99
IIa	3a	COD	TR1	0.1	0.07	0.11	0.02	0.09	0
IIa	3a	COD	GN1	0.03	0.01	0.02	0.01	0.02	0
IIa	3a	PLE	TR2	0.83	0.76	0.61	0.64	0.7	0.68
IIa	3a	PLE	TR1	0.14	0.18	0.32	0.3	0.26	0.25
IIa	3a	PLE	GN1	0.02	0.04	0.04	0.03	0.02	0.04
IIa	3a	SOL	TR2	0.99	0.85	0.66	0.72	0.71	0.93
IIa	3a	SOL	GN1	0	0.12	0.27	0.21	0.19	0.05
IIa	3a	SOL	GT1	0	0.01	0.04	0.03	0.04	0.01
IIa	3a	SOL	TR1	0	0.01	0.02	0.03	0.05	0.01

Table 6.2.4.2 Ranked gear Categories according to the proportional landings of Cod, Plaice and Sole 2003-2008

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
IIa	3a	COD	TR2	0.78	0.83	0.77	0.8	0.77	0.74
IIa	3a	COD	GN1	0.04	0.03	0.03	0.03	0.05	0.11
IIa	3a	COD	TR1	0.1	0.09	0.14	0.06	0.14	0.08
IIa	3a	COD	LL1	0.01	0	0	0	0	0.03
IIa	3a	PLE	TR2	0.77	0.62	0.48	0.53	0.52	0.56
IIa	3a	PLE	TR1	0.13	0.25	0.4	0.37	0.39	0.32
IIa	3a	PLE	GN1	0.05	0.09	0.07	0.06	0.06	0.07
IIa	3a	PLE	GT1	0.03	0.03	0.04	0.03	0.03	0.05
IIa	3a	SOL	TR2	0.74	0.79	0.64	0.66	0.7	0.72
IIa	3a	SOL	GN1	0.18	0.16	0.28	0.25	0.21	0.2
IIa	3a	SOL	GT1	0.03	0.02	0.04	0.04	0.05	0.05
IIa	3a	SOL	TR1	0.03	0.02	0.03	0.04	0.03	0.02

The fishery in Kattegat is totally dominated by the gear category TR2 which contributes 74 % of the total effort, 74 % of the cod landed, 56 % of the plaice landed and 72 % of the

sole landed in 2008. The gear category TR2 also include the Swedish grid fishery which has shown an increase use from 2005, this gear is still however only used by Swedish fisherman.

6.2.5. Unregulated gears in Kattegat

Table 6.2.5.1 and Figure 6.2.5.1 shows the effort by unregulated gear categories (defined in the new cod plan). Unspecified otter trawl and pelagic trawls are the most important gear types.

Table 6.2.5.1. Effort (Kwd) of unregulated gear in Kattegat 2000-2008.

Reg Area	Gear	2000	2001	2002	2003	2004	2005	2006	2007	2008
3a	BEAM				126	3715	7684		13085	
	DEM_SEINE				813		354			
	DREDGE	3782	11218	7881	7526	6461	33713	39802	50977	55259
	none	12544	10384	28958	10309	15212	8924	17261	15766	24586
	OTTER	283517	289388	284275	290906	205883	189643	257550	196052	152392
	PEL_SEINE			2760						
	PEL_TRAWL	106569	245664	248732	312491	293785	348582	260588	280751	133636
	POTS	53049	58700	52602	54894	85806	65450	75311	86516	75233
3a Total Unregulated		459461	615354	625208	677065	610862	654350	650512	643147	441106

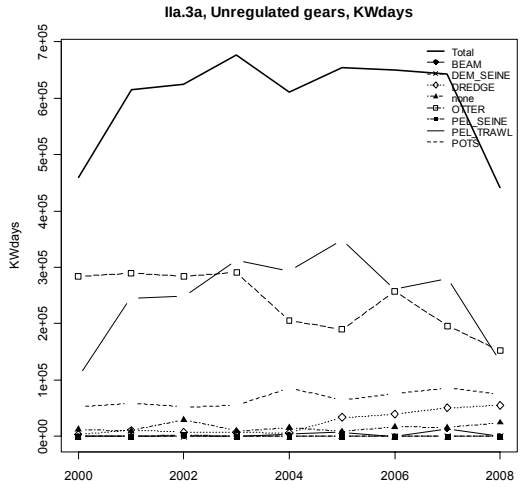


Figure. 6.2.5.1 Effort by unregulated gear in Kattegat 2000-2008.

Catches of cod, sole and plaice by unregulated gears are given in Tables 6.2.5.2 to 6.2.5.4 respectively.

Table 6.2.5.2. Catch of cod by unregulated gears 2003-2008

REG_AREA	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
3a	DEM_SEINE	1	0										
	none	10	0	5	0	6	0	10	0	1	0	0	0
	OTTER	17	0	7	0	12	0	18	0	5	0	4	0
	PEL_TRAWL	2	0	1	0	2	0	1	0	0	0	0	0
	POTS	0	0			0	0	0	0				
3a Total		29	0	13	0	20	0	28	0	7	0	5	0

Table 6.2.5.3. Catch of sole by unregulated gears 2003-2008

REG_AREA	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
3a	DEM_SEINE	0	0			0	0						
	none	2	0	1	0	2	0	2	0	3	0	1	0
	OTTER	0	0	0	0	0	0	2	0	0	0	0	0
	PEL_TRAWL							0	0				
3a Total		3	0	1	0	3	0	4	0	3	0	1	0

Table 6.2.5.3. Catch of plaice by unregulated gears 2003-2008

REG_AREA	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
3a	DEM_SEINE	0	0			1	0						
	none	24	0	11	0	1	0	4	0	7	0	2	0
	OTTER	1	0	0	0	1	0	5	0	2	0	2	0
	PEL_TRAWL			0	0			0	0	0	0		
	POTS	0	0										
3a Total		26	0	11	0	3	0	9	0	9	0	3	0

The total amount of the landings of cod, plaice and sole by the unregulated gears is less than 1% of the total amount of the landings.

6.2.6. Information on under 10m vessels

Landings of cod plaice and sole by vessel sunder 10m is presented in Tables 6.2.6.1 to 6.2.6.3. The total amount of the landings of Cod Plaice and Sole by the vessels under 10 m gears is less than 1% of the total amount of the catch.

Table 6.2.6.1 Landings (t) cod by vessels under 10m 2003-2008.

GEAR	2003	2004	2005	2006	2007	2008
GILL	40.3	16.5	22.9	30.8	20.4	7.6
LONGLINE	1.3	0.5	1.9	5.9	7.5	1.1
none	195.1	124.5	99.3	113.4	42.5	25.4
OTTER	2.8	1.9	1.1	5.7	3.5	1.6
PEL_TRAWL			0.1			
POTS	0.3	0.0	0.2	0.1	0.1	0.1
TRAMMEL	0.1	0.2	0.8	1.7	1.1	1.7
Total	239.7	143.6	126.2	157.6	75.1	37.6

Table 6.2.6.2 Landings (t) plaice by vessels under 10m 2003-2008.

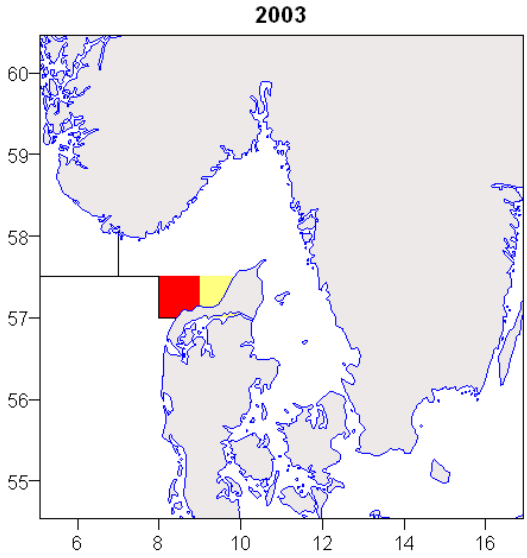
GEAR	2003	2004	2005	2006	2007	2008
DEM_SEINE			0.0			
GILL	28.7	30.6	30.5	42.4	45.6	25.8
LONGLINE				0.0	0.0	
none	251.5	242.5	182.6	206.6	188.2	119.4
OTTER	11.3	14.4	3.3	12.0	27.2	10.6
PEL_TRAWL			0.0			
POTS			0.0	0.0	0.0	0.0
TRAMMEL	7.1	3.1	7.1	11.8	13.1	9.8
Total	298.5	290.6	223.6	272.8	274.2	165.5

Table 6.2.6.2 Landings (t) sole by vessels under 10m 2003-2008.

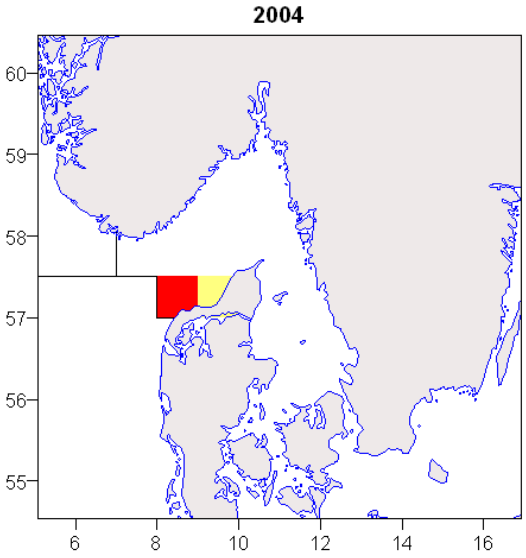
GEAR	2003	2004	2005	2006	2007	2008
GILL	0.0	0.1	1.6	2.0	2.9	3.3
OTTER	0.0	0.0	0.0	0.0	0.0	0.0
POTS	0.0		0.0	0.1	0.1	0.1
TRAMMEL		0.0	3.4	5.2	7.2	8.7
Totalt	0.1	0.1	5.1	7.2	10.3	12.1

6.2.7. Spatial distribution patterns of effective effort

The spatial maps showing the beam trawler BT1 and BT2 together with the absence of any catch data from the beam trawler in Kattegat clearly shows that there has been an error in the Dutch effort data sent in to the working group.



IIa.BT1.3a_Kattegat_2003



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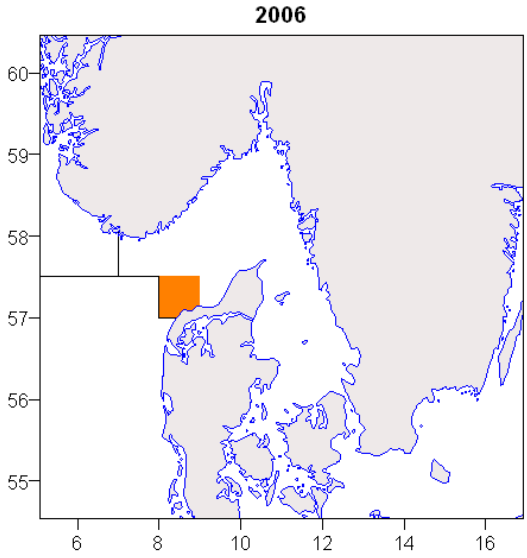
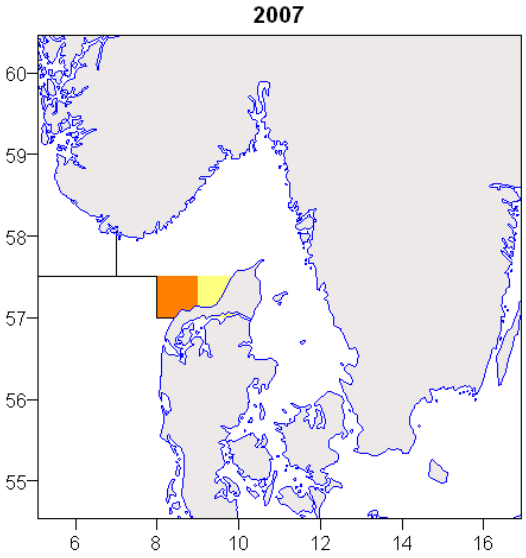
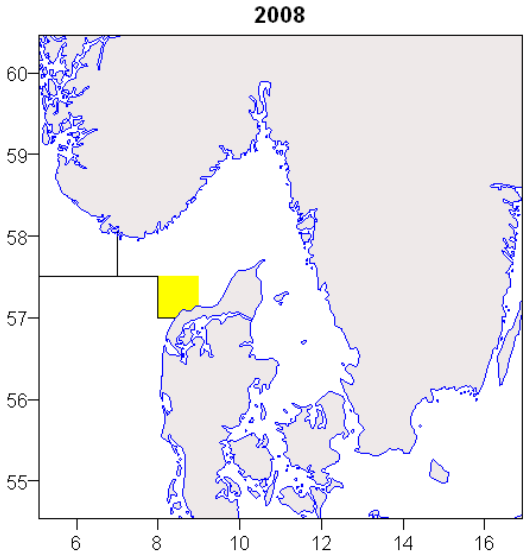
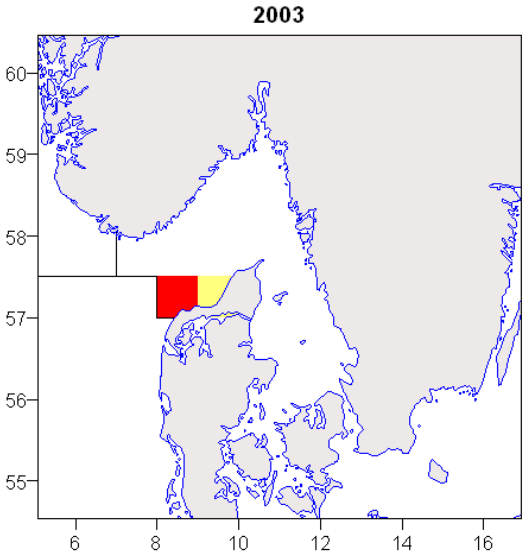




IIa.BT1.3a_Kattegat_2006

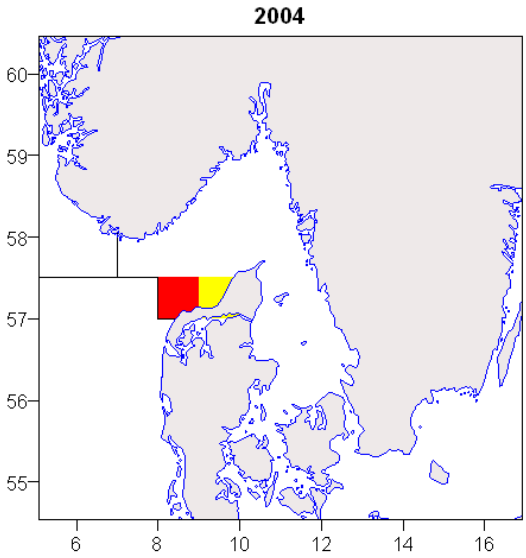


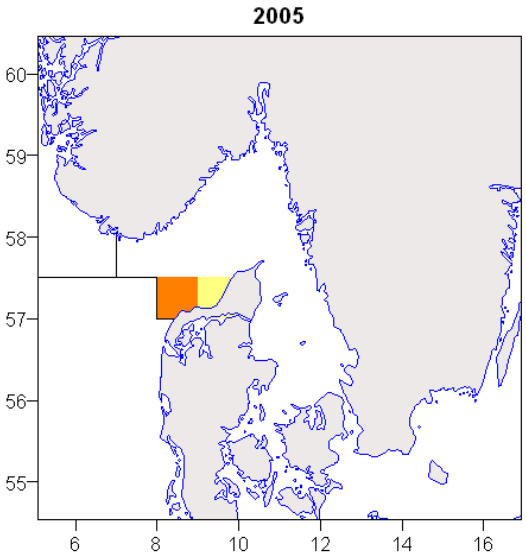
IIa.BT1.3a_Kattegat_200



IIa.BT1.3a_Kattegat_2008

IIa.BT2.3a_Kattegat_2003





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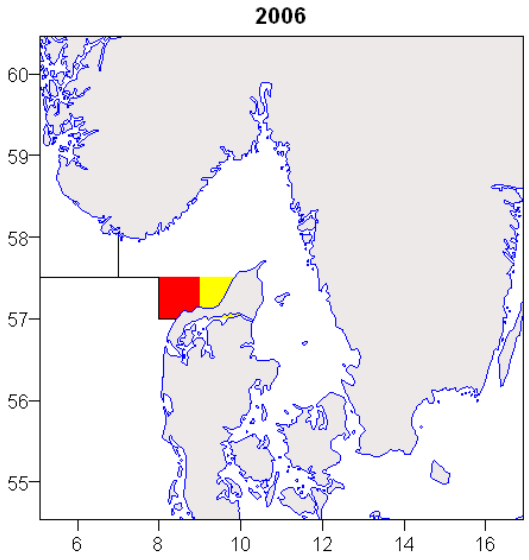
IIa.BT2.3a_Kattegat_2005



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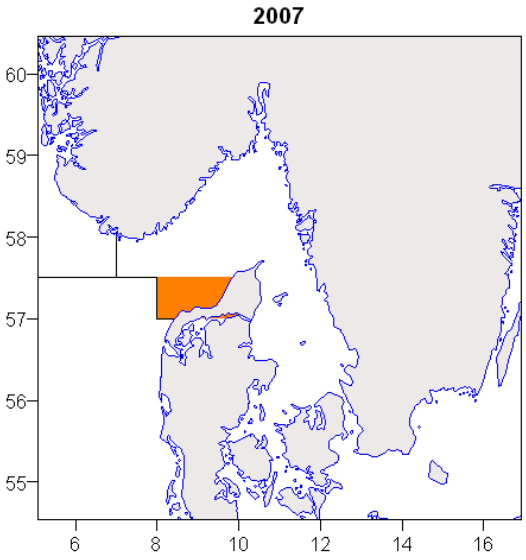

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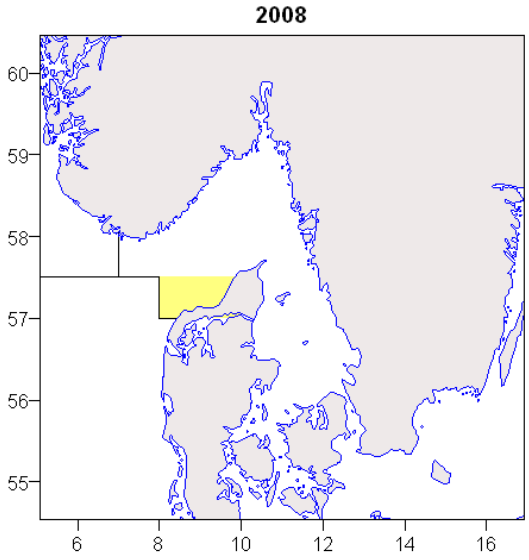
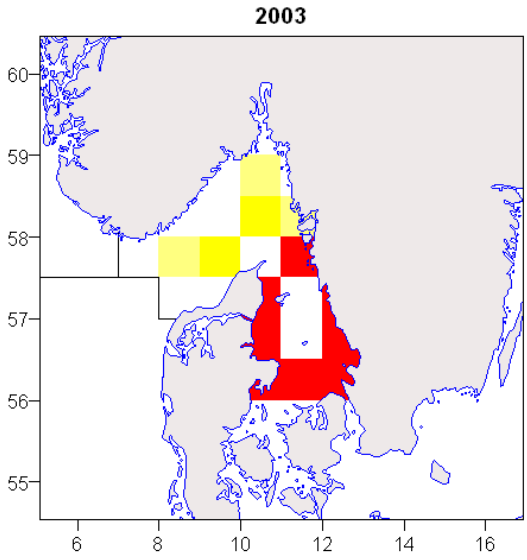


IIa.BT2.3a_Kattegat_2008



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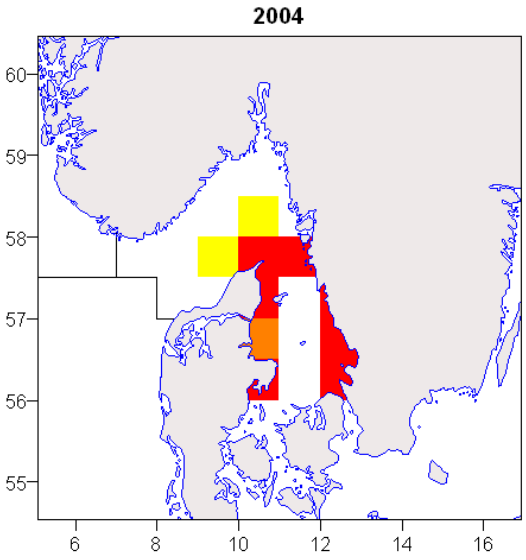

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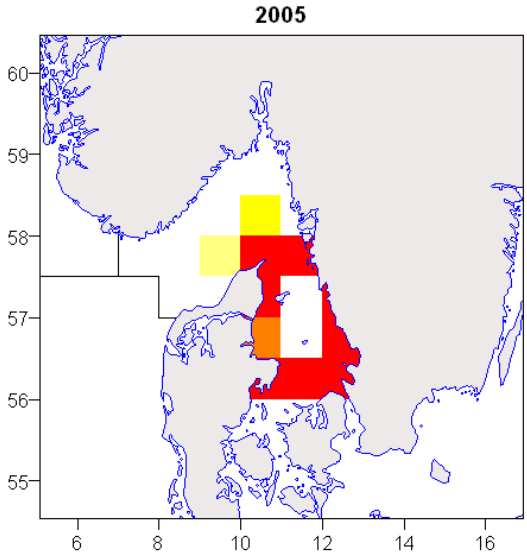

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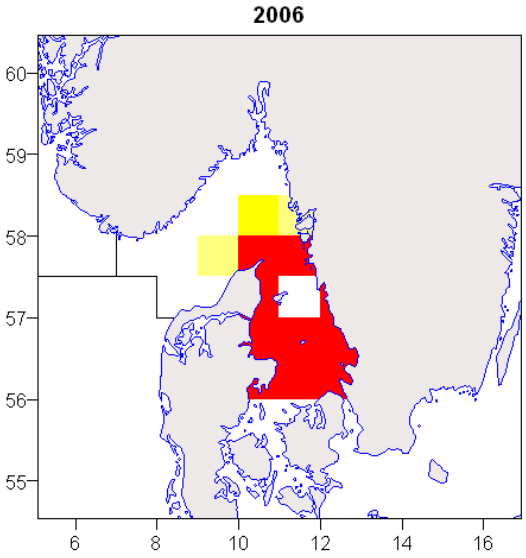

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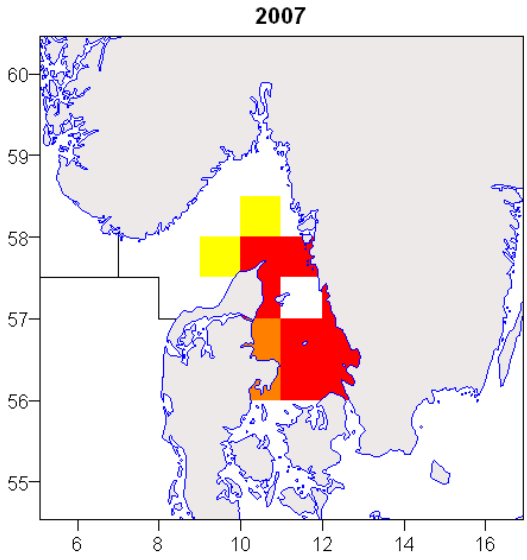
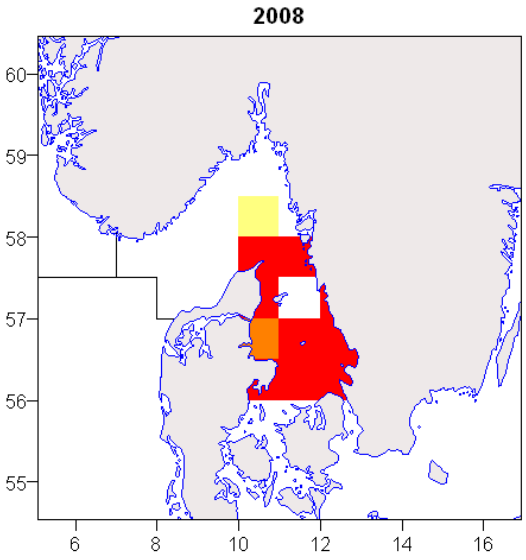


IIa.TR2.3a_Kattegat_2007



IIa.TR2.3a_Kattegat_2008

Kattegat is a rather small management area to find any changes in the pattern of the distribution of effort between the gears using statistical rectangles. A smaller grid would be required to pick up any spatial changes in this area.

6.3. Management area 3b: Skagerrak, North Sea (incl. 2EU), and Eastern Channel

This section summarizes all the information collected for the management area covering the North Sea, the Skagerrak and the Eastern English Channel. It is to be noted that this area is referred to as area 2b in Council Regulation 40/2008 (Which is referred to as "Annex IIa") and to area 3b in Council Regulation 43/2009 (which is referred to as "cod plan"), therefore the labelling of figures and tables may vary within the section.

6.3.1. Trend in effort by derogation in management area 2b: Skagerrak, North Sea (incl. 2EU), and Eastern Channel

Catch and effort data including special conditions have been provided by all Member States with significant fishing activity in this area. As such, the data should represent a complete account of fishing effort by regulated gears in the area. In this report, additional analysis is included describing specific English Channel (area 2b3) patterns in section 6.3.8.

Trends in nominal effort by regulated and unregulated gears in the Skagerrak, North Sea (incl. 2EU) and the Eastern Channel are listed in Tables 6.3.1.1–6.3.1.2 for the annex IIa and cod plan categories respectively, and illustrated in Figures 6.3.1.1–6.3.1.16. For clarity, graphs of effort data are presented as aggregate totals for the whole of area 2b for both types of categories. In some cases 2008 regulations differed however between different parts of the area, e.g. between 2b2 (ICES area IV, the North Sea) and 2b3 (ICES Division VIId, the Eastern Channel). For similar reasons, only figures for nominal effort in

kW*days are plotted. A more detailed analysis of unregulated gears is presented in section 6.3.5.

A substantial number of changes were performed by various member states in the methods used to estimate effort (Table 6.3.1.3). These changes are described in detail in the national data section, and only the main parts are summarised here. England corrected some errors in the registration and allocation of the special conditions. For Belgium the effort calculated in last year's report as kW*fishing hours have been corrected to kW*days at sea taking into account the days spent in an area as a fraction of a day multiplied by the kW of the vessel. France corrected a number of inconsistencies in the estimation procedures. The Netherlands provided more accurate data than in all the previous years. Denmark made a number of changes in the data extraction program leading to substantial revisions of the estimates.

The Working Group thus considers the reporting on the revised data being equally or more accurate this year compared to previous years for most countries. However, the Group experienced that a number of countries are still in a process of in-depth checking procedures as well as validating the consistency between data estimated by scientific institutes and data provided by national authorities. Therefore, some data presented here are still provisional, and it is expected that further revisions will likely occur before next year's meeting. Furthermore, it must be kept in mind that for some countries, the changes were so substantial that no adequate comparison can be performed between the figures presented last year and the figures presented this year.

The effort graphs shown are as follows:

- Figure 6.3.1.1; Effort totals by all regulated gear types according to Annex IIa.
- Figures 6.3.1.2–6.3.1.6; Effort totals by mesh size category with main gear types.
- Figures 6.3.1.7-6.3.1.14; Effort totals for individual gear categories where different special conditions apply showing the breakdown of effort by special condition.
- Figures 6.3.1.15-6.3.1.16; Effort totals by gear categories from the cod plan.

Trends in nominal effort in kilowatt-days by overall gear category for the countries having provided data are given in Tables 6.3.1.4 and 6.3.1.5 and shown in Figure 6.3.1.1. This figure includes a substantial 'none' category which covers nominal effort by unregulated gears, and regulated gears for which no mesh size information was available (see section 6.3.5). The main gears in management area 2b are demersal trawls/seines and beam trawls. Nominal effort by both of these gear types has shown a decrease since at least 2002, and this is reflected in the decrease in total effort over the same period. This general decrease in effort has though not continued into 2008 for demersal trawls and seines.

Figure 6.3.1.2 shows trends in nominal effort (kW*days) by demersal trawls and seines by regulated mesh size category. The overall effort by these gears has shown a reduction since 2002, but a very slight increase in 2008. There have also been substantial changes in the usage of the different mesh size categories. In particular there had been a sharp reduction in usage of gears with a mesh size of between 100mm and 119mm from 2002, but there has now been a small but continuous increase with this mesh size since 2005. Usage of gears with a mesh size of 120mm and above has increased. There has also been a general increase in effort by vessels using mesh sizes of 70-89mm and 90-99mm.

It is difficult to interpret the available special condition information with regard to the usage of the different Annex IIa mesh size categories by regulated gears. This is because the information supplied is not always consistent across countries, although this has improved

over the recent years. Nominal effort by special condition is given for each mesh size category of the regulated trawl gears in Figure 6.3.1.7–6.3.1.10. For many mesh sizes only a small proportion of the effort falls into the special condition categories. The main derogation in demersal trawls/seines is special condition IIA83d in regulated gear 4aii (mesh sizes of 70-89mm; Figure 6.3.1.7), although its proportion has decreased in the recent years. This special condition refers to vessels catching no more than 5% of cod, plaice or sole in 2002. The increase in effort in this category is due largely to French and Scottish vessels, so presumably reflects respectively the whiting and Nephrops fisheries. From 2006 to 2008, a substantial proportion of effort in mesh size 90-99 mm was also spent in special condition IIA83a (120mm square mesh window)

The overall effort in beam trawl is at the same level as the overall effort in demersal trawl. Beam trawlers contributed around 40% to the overall nominal effort exerted in the Skagerrak, North Sea (incl. 2EU) and Eastern Channel. The data indicate a general reduction in beam trawl effort since at least 2002. Not all of the data for the major Dutch and Belgian fleets could be assigned to mesh size, though based on expert knowledge the large majority of this effort has been assigned to the 80-89mm mesh size category (regulated gear 4bi). For Belgium though, this applies only for the years prior to 2007, since the actual mesh size used has been correctly registered since 2007. Beam trawlers fishing with mesh size larger than 100 mm (4biii and 4biv) are mostly falling under two special conditions, IIA83c and IIA83i.

Static gears recently contribute only about 4-5% to the nominal effort deployed in the Skagerrak, North Sea (incl. 2EU) and Eastern Channel. STECF-SGRST notes that the fishing activities for static gears are poorly quantified by nominal effort (kW*days at sea). The largest mesh size category (4civ, ≥220mm) is the least used, but in recent years the amount of effort by each of the smaller mesh size categories has been broadly similar. There is some usage of longlines and trammel nets in the area, but overall these gears are not important.

With regards to the gear categories defined in the 2009 regulation, these trends correspond to an increase in TR1, GN1, GT1, LL1 in 2008 compared to 2007, constant effort in TR2 and TR3, and a decrease in BT1 and BT2.

Table 6.3.1.1. North Sea (incl. 2EU), and Eastern Channel: Trend in nominal effort (kW*days at sea) by derogation 2000-2008 according to Annex IIa gear definitions.

REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
4ai	none	BEL									374
		DEN	6835856	4901394	5365758	4876431	5127600	4614582	3431887	2165033	1877245
		ENG	19391	29387	15361	66951	21003	16312	11607	2994	2870
		FRA	12426	5187	8960	29893	24083	23967	3166	5844	10662
		GER	1783	4560	380	1028			10502	884	4410
		NED	57584	52195	79073	80745	48611	54505	42407	28840	21582
		NIR					7680				
		SCO	106760	6521		6377	5460	2356	116	72821	
		SWE	121644	316124	200433	207504	275489	338638	238150	214527	100216
4aii	IIA83b	SWE					308459	542007	664971	894575	735039
	IIA83c	ENG						588			
		GER	64103	99489	125578	129201	91759	121770	100342	152801	99519
		SCO	33676	22780	17023	37542	50967	37314			
	IIA83d	ENG					2499	2499			
		FRA	2094430	4670814	4216772	6708351	6910061	6333279	6470479	5044083	4281456
		SCO	2784316	3236251	4077836	4291401	4003351	3482896	2941269	2662555	2722143
	none	BEL					496555	320116	344889	274177	399915
		DEN	2418294	1864980	2540501	2536571	1818697	1381440	923667	522123	413704
		ENG	1243095	1127242	1092146	1522001	1224000	1272182	1141032	848419	882703
		FRA	3866034	4585889	7078043	5366086	4679375	5047339	4232589	4452147	4297823
		GBG		3977							
		GBJ	32102	26535	17632	19239	7375	12506	1924	7375	2886
		GER	192191	139130	122582	343614	379468	263453	463487	454033	335540
		IRL					884			73170	
		NED	605781	941412	1185328	1863952	1695226	1607734	1454636	1718826	2454548
		NIR		7480	23293	6784	3860	70380	238586	147418	280833
		SCO	2045894	2071710	4439778	5006896	4362541	4838482	4588709	4488495	4944469
		SWE	1278658	1108348	1149837	785081	242255				
4aiii	IIA83a	DEN							1556782	995382	1451041
		SWE						666398	541145	555981	724707
	IIA83d	ENG				1402		588			
		FRA	177478	369308	450593	531449	598660	259972	74876	66868	23832
		SCO	666	2442	7687	3330	1332	444	1942		222
		SWE							64080		
	IIA83l	DEN							494435	20903	
	none	BEL									5936
		DEN	3518791	3494647	4114693	5223467	6510952	4542778	1717653	1917574	1493557
		ENG	40911	38740	25500	575293	750204	911468	751419	920600	1073983
		FRA	329229	315419	521838	289428	261365	118115	106363	70813	35776
		GBJ		16032	2084	8658	12826	13147	13467	12185	11223
		GER		24973	51272	568059	434103	319181	207768	73847	22200
		IOM	272								
		IRL				54					
		NED	589	16770	26670	233038	122580	43629	63133	101776	33766
		NIR					8580	151524	294299	611554	128349
		SCO	13867	18653	2866	741661	1097508	749094	1145901	1736213	1536639
		SWE	1213575	1349245	1324296	1338075	1404506	763634	846539	604762	641206
4aiv	IIA83a	DEN							88894	52618	8755
		SWE								857	375
	IIA83c	ENG	112295	112568	76613	24300	53772	12777	17930	9405	10846
		FRA	448		75		636		1745		146
		GER	253001	228736	184916	50657	15195	19640	112533	51227	65181
		SCO	208075	148483	113684	214722	237709	179725	106816	118238	115283
	IIA83d	ENG	1821	4150	7005	526			290		
		FRA	4557864	3830373	4115938	3860786	2820964	2858471	3070463	2850628	2925347
		GER	772317	648159	329663	172161	157515	207945	126540	246630	63450
		NIR					1926	428	856		
		SCO	2563725	2026513	1524887	94844	101300	154301	128058	201394	129167
	IIA83k	FRA	29213	15694	11552	5468			515		4680
	none	BEL					1479			120934	169936
		DEN	10227710	10825312	3601183	765642	1047939	1323452	1148072	810962	1065360
		ENG	4945499	4249503	2175066	682631	309054	169651	596713	728186	808540
		FRA	512170	309437	396971	119399	68098	78840	204513	309198	64831
		GBJ	15071		6894						
		GER	1114471	968194	382667	86482	105016	79594	426140	239502	158361
		IRL				1847			1044		
		NED	2251090	1487093	483787	358570	285375	385313	419210	526045	1114071
		NIR		5500	4235		1540	13640	18459	18274	7160
		SCO	30844053	28384267	13137368	791231	281479	329241	514879	798139	1268631
		SPN								9390	2254
		SWE	1495569	1449446	296648	61862	15923	25419	6478	9099	1149

Table 6.3.1.1. (Continued)

4av	**IIA83a**	**DEN**							587343	175798	13619
		SWE							24354	69228	236144
	IIA83c	**DEN**							35599	26402	37598
		ENG	6208		5526	11694	31716	582	17149	11760	26684
		FRA							1201		630
		GER			5967						
		NIR						1477	1070	856	2257
		SCO			8656	953					21996
	IIA83d	**ENG**				5970	7532	9587		4482	7345
		FRA	43272	103393	66671	160990	17077	30728	69889	8138	3061
		GER		8415	598178	624861	612112	592950	589751	643137	711810
		NIR					11342	48435	29997	32375	31072
		SCO			72480	274763	373701	383719	341818	194353	134388
	IIA83h	**DEN**							175211	67918	134183
	IIA83j	**DEN**							2363330	1581149	235587
	IIA83k	**FRA**									253
	none	**BEL**								33715	21580
		DEN	1220941	937818	8344912	7349230	6166354	6585763	3051329	2762731	3860269
		ENG	71529	40081	1266522	1650335	1096015	1063589	1192598	746177	998249
		FRA	1987		266345	7447		7358	17640	24761	
		GBJ			4810						
		GER	660	10731	760960	961677	832534	1273505	1211751	860568	792805
		NED	5006	6852	1038295	353194	322757	174406	128078	132015	299182
		NIR					2140	6731	1569	9955	8615
		SCO	164506	102632	9483465	14731922	11693759	11119840	10572287	9710856	10506826
		SWE	2702	61502	1001107	491470	454880	471335	261688	278657	188593
4bi	**none**	**BEL**	6616409	6703326	6749529	6791785	6123718	5477803	5720243	5344280	5799358
		DEN	220	30891	1547	6692	4006	440	2640		
		ENG	2580148	3235880	2465400	2389910	2481575	2686293	2128481	2377097	1410874
		FRA	513447	644489	813951	752404	604968	622679	626745	598210	516130
		GBJ	2371	4882	1956	5180	14375	8180			
		GER	2127827	1712272	1776709	1644684	2019143	2206795	1879655	1584575	1463427
		NED	56156185	54352044	51011273	45995267	43761190	43638972	38002576	37758891	27209968
		NIR		47513	23215	20350	41625	16785			
		SCO	2038305	2560991	2333020	1966789	2533416	2316208	1560916	2141862	937389
4bii	**none**	**DEN**	23945		34596	3540	15280	1760	3804		
		ENG	19676	70131	15634	618			7500	3178	
		FRA	22537	99665	122933	43343	23693	35959	30713	8529	620
		GER			1825	9650	30340	3171	22518	4894	736
		NED	37587		50082	118188	87986	80891	129379	99153	115054
		SCO	7250				40500	13500			
4biii	**IIA83c**	**ENG**	4584205	3993284	1321551	1119643	1705906	1758301	1171795	1172495	894657
		FRA	18068	8318				1180			254
		GER	227533	255198	86088	13216	14104		5945		
		NIR	445251	687772			5892				
		SCO	2847575	2799024	1987645	1752536	1546067	1339704	1083757	412619	223330
	IIA83i	**ENG**	776591	316124	51226	62620	43403	25476	25897	23319	27215
		NIR	50082	39932							
	none	**BEL**	151598	176048	125512	32481	4259	9155		51172	12713
		DEN	1968073	1882508	547845	106485	68604	98671	86354	104694	39730
		ENG	184785	122823	23044						
		FRA	938	6280	3360						
		GER	103666	165913	9061	2320	17006	2431	19280	1354	
		NED	3234178	1700972	831768	1796600	1044892	849210	946199	263597	323768
		NIR	13572								
		SCO	452308	689204	263544	46930	490331	515852	465010	246160	194057
4biv	**IIA83c**	**DEN**								5448	
		ENG	174729	520484	1684859	957738	590001	556462	1206754	289587	217097
		GER			26491	9503		663	17680		
		NIR			675865	952930	538886	36825			
		SCO			514473	191060	183647	196405	126554	75543	4500
	IIA83e	**DEN**							418954	12279	
		GER			33969	1760			6188		
	IIA83i	**ENG**	71601	3581	513746	103072	81128	61698	114486	16250	11433
		NIR			74511	12309	4419				
	none	**BEL**	2362246	1878508	1797995	1036595	1262243	1391340	1234613	1247506	948817
		DEN	110770	101605	1179534	1498917	1366044	1316858	369938	838890	449199
		ENG			3915						
		FRA			303						
		GER	1502	7947	52837	36473	31698	1465	30118	30297	17674
		NED	91720	179837	484240	581685	708628	744275	1546520	733878	370417
		SCO			457447	675606	511069	534405	476537	274371	64068

Table 6.3.1.1. (Continued)

4ci	**none**	**DEN**	813596	755749	410405	424821	502799	546805	435322	259249	306463
		ENG	34305	54660	19509	18967	15435	12165	11176	13297	5907
		FRA	131348	79853	101809	169699	147220	48327	14211	48639	81962
		GER	24656	20608	56400	42157	46531	142254	97835	79542	95556
		NED	84769	103044	155058	188324	167159	155289	298790	275502	299446
		SCO	80								2500
		SWE	31030	26530	31485	37837	47967	32118	23714	24804	65676
4cii	**none**	**BEL**									25600
		DEN	1234049	1329848	1024718	880094	873739	814560	795505	566128	501846
		ENG	93544	98128	75605	27555	9095	18054	14220	16418	46788
		FRA	72123	108196	140023	162977	51119	88208	37428	38423	19260
		GER	9016	4416	700	18303	6607	11975	13603	14093	21094
		NED	41241	33827	28201	45627	44530	41442	48625	48742	45122
		SCO	720	5200	8533	5680	240		373		
		SWE	34086	48727	40873	46397	55517	48379	46811	27891	21293
4ciii	**none**	**DEN**	2443751	2150571	2120052	1090351	976519	912301	782067	317864	421481
		ENG	226152	204023	98036	88204	88199	49957	48923	21726	19561
		FRA	33255	69066	51669	34151	14780	22415	12603	762	392
		GER	29547		8261	38286	56725	47961	29791	21870	16608
		NED	36199	22295	22128	6804	4211	7066	2271	1104	1165
		SCO	9768	35277	28499	4239	9279	6080	1120		
		SWE	4832	3219	7010	6898	13334	7171	2975	3104	4082
4civ	**IIA83f**	**ENG**	2515	3012	6700	2312	1575	1656	1705	364	282
		FRA					3992			362	
	none	**BEL**									3589
		DEN	136888	152814	225206	142685	142224	74579	67512	77345	86716
		ENG	396718	372536	355803	205100	247863	226291	235021	81162	3400
		FRA				546	1337	556	50	927	
		GER	138474	100420	62622	92678	53802	71013	95356	37128	147924
		NED		385	308						134
		SCO	21672	22401	10345	185962	187888	159564	292330	320785	414576
		SWE	3897	2978	7206	11387	10468	2080	2909	2819	5826
4d	**IIA83g**	**ENG**	14102	13047	14690	4211	6340	8871	10956	5231	5488
		FRA	123515	799915	1853137	1726861	1910408	1830839	1036894	1151993	1528573
	none	**BEL**								39856	32571
		DEN	84092	128756	142976	143427	246854	240716	184802	98425	126223
		ENG	50364	50510	31883	8176	3966	5654	6225	5768	17010
		FRA	796496	455679	109726	107229	128014	154105	74773	57701	109173
		GER							1547		
		NED									740
		POR				179					
		SWE	15487	14298	16562	13801	16206	27824	56771	62309	63022
4e	**none**	**BEL**									1833
		DEN	297384	370229	299245	128989	85345	44687	38903	18078	27772
		ENG	386865	158207	324102	147068	115019	182590	95139	53675	45554
		FRA	958	5966	51563	35140	25594	23063	5011	10351	70857
		NIR			8856						
		SCO	78368	88759	104086	57163	4350		7542	1487	276674
		SPN								735	
		SWE	11727	32712	44736	32305	44221	42904	123481	165019	53381
none	**none**	**BEL**	1440345	1426691	1079023	1069691	423893	438084	424145	421923	436292
		DEN	16979551	19513819	17789148	18715429	17857550	12559308	12084141	9722384	10200488
		ENG	3382043	3914182	4064317	4496694	4107122	4409063	3683782	4294776	3609083
		FRA	139039	149201	271054	591349	789056	487221	228557	140765	143758
		GBG	39233	36568	27747	38013	38467	33150	63737	16061	59251
		GBJ	108399	113392	51415	67837	82496	76607	67282	39276	10742
		GER	7888128	7629824	7685993	8658165	8286765	8107720	7621618	7287880	6979402
		IOM		1323				11297	32920	44610	37483
		IRL	262092	324436	485929	684600	788199	512648	354820	578708	544247
		NED	10725303	10875566	11333282	13273476	13053831	11606496	10649422	10837434	8605971
		NIR	117904	227443	249612	333945	290949	180242	216731	216596	39502
		SCO	7135045	5854377	6692738	7501308	8458082	5721867	4885111	5111855	4258836
		SWE	3825359	4072911	4331565	4116666	4086483	3423748	3218811	2569261	2798527

Table 6.3.1.2. North Sea (incl. 2EU), and Eastern Channel: Trend in nominal effort (kW*days at sea) by derogation 2000-2008 according to cod plan gear definitions...

REG GEAR	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
BT1	BEL	2362246	1878508	1797995	1036595	1262243	1391340	1234613	1247506	948817
	DEN	110770	101605	1179534	1498917	1366044	1316858	788892	856617	449199
	ENG	246330	524065	2202520	1060810	671129	618160	1321240	305837	228530
	FRA			303						
	GER	1502	7947	113297	47736	31698	2128	53986	30297	17674
	NED	91720	179837	484240	581685	708628	744275	1546520	733878	370417
	NIR			750376	965239	543305	36825			
	SCO			971920	866666	694716	730810	603091	349914	68568
BT2	BEL	6768007	6879374	6875041	6824266	6127977	5486958	5720243	5395452	5812071
	DEN	1992238	1913399	583988	116717	87890	100871	92798	104694	39730
	ENG	8145405	7738242	3876855	3572791	4230884	4470070	3333673	3576089	2332746
	FRA	554990	758752	940244	795747	628661	659818	657458	606739	517004
	GBJ	2371	4882	1956	5180	14375	8180			
	GER	2459026	2133383	1873683	1669870	2080593	2212397	1927398	1590823	1464163
	NED	59427950	56053016	51893123	47910055	44894068	44569073	39078154	38121641	27648790
	NIR	508905	775217	23215	20350	47517	16785			
	SCO	5345438	6049219	4584209	3766255	4610314	4185264	3109683	2800641	1354776
GN1	BEL	61831	102091	93282	128220	106717	108149	99327	69973	94133
	DEN	4705094	4440151	3809195	2556357	2503663	2355996	2086501	1234706	1328785
	ENG	753234	732539	556773	342138	362507	308493	311045	182202	75938
	FRA	236726	257115	293501	367373	218448	159506	64292	89113	101614
	GER	201693	125444	127983	191424	163665	273203	236585	152633	281182
	NED	191569	177290	231998	460895	416025	387945	512022	521697	507733
	SCO	32240	63254	47377	196852	197407	165644	293823	320785	417076
	SWE	74029	81638	86574	102519	127286	89748	76409	58618	96877
GT1	BEL								39856	32571
	DEN	84092	128756	142976	143427	246854	240716	184802	98425	126223
	ENG	64466	63557	46573	12387	10306	14525	17181	10999	22498
	FRA	920011	1255594	1962863	1834090	2038422	1984944	1111667	1209694	1637746
	GER							1547		
	NED									740
	POR				179					
	SWE	15487	14298	16562	13801	16206	27824	56771	62309	63022
LL1	BEL									1833
	DEN	297384	370229	299245	128989	85345	44687	38903	18078	27772
	ENG	386865	158207	324102	147068	115019	182590	95139	53675	45554
	FRA	958	5966	51563	35140	25594	23063	5011	10351	70857
	NIR			8856						
	SCO	78368	88759	104086	57163	4350		7542	1487	276674
	SPN								735	
	SWE	11727	32712	44736	32305	44221	42904	123481	165019	53381
TR1	BEL					1479			154649	191516
	DEN	11448651	11763130	11946095	8114872	7214293	7909215	7449778	5477578	5355371
	ENG	5137352	4406302	3530732	2375456	1498089	1256186	1824680	1500010	1851664
	FRA	5144954	4258897	4857552	4154090	2906775	2975397	3365966	3192725	2998948
	GBJ	15071		11704						
	GER	2140449	1864235	2262351	1895838	1722372	2173634	2466715	2041064	1791607
	IRL				1847			1044		
	NED	2256096	1493945	1522082	711764	608132	559719	547288	658060	1413253
	NIR		5500	4235		16948	70711	51951	61460	49104
	SCO	33780359	30661895	24340540	16108435	12687948	12166826	11663858	11022980	12176291
	SPN								9390	2254
	SWE	1498271	1510948	1297755	553332	470803	496754	292520	357841	426261

Table 6.3.1.2 (Continued)

REG GEAR	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
TR2	BEL					496555	320116	344889	274177	405851
	DEN	5937085	5359627	6655194	7760038	8329649	5924218	4692537	3455982	3358302
	ENG	1284006	1165982	1117646	2098696	1976703	2187325	1892451	1769019	1956686
	FRA	6467171	9941430	12267246	12895314	12449461	11758705	10884307	9633911	8638887
	GBG		3977							
	GBJ	32102	42567	19716	27897	20201	25653	15391	19560	14109
	GER	256294	263592	299432	1040874	905330	704404	771597	680681	457259
	IOM	272								
	IRL				54	884			73170	
	NED	606370	958182	1211998	2096990	1817806	1651363	1517769	1820602	2488314
	NIR		7480	23293	6784	12440	221904	532885	758972	409182
	SCO	4878419	5351836	8545190	10080830	9515699	9108230	8677821	8887263	9203473
	SWE	2492233	2457593	2474133	2123156	1955220	1972039	2116735	2055318	2100952
TR3	BEL									374
	DEN	6835856	4901394	5365758	4876431	5127600	4614582	3431887	2165033	1877245
	ENG	19391	29387	15361	66951	21003	16312	11607	2994	2870
	FRA	12426	5187	8960	29893	24083	23967	3166	5844	10662
	GER	1783	4560	380	1028			10502	884	4410
	NED	57584	52195	79073	80745	48611	54505	42407	28840	21582
	NIR					7680				
	SCO	106760	6521		6377	5460	2356	116	72821	
	SWE	121644	316124	200433	207504	275489	338638	238150	214527	100216
TOT REGULATED		186663271	179927532	174457603	154804402	144798790	139492508	127637814	116415838	103821337
none	BEL	1378514	1324600	985741	941471	317176	329935	324818	351950	371348
	DEN	16902741	19462650	17760334	18697023	17849168	12551557	12078046	9708264	10188209
	ENG	3382043	3914002	4063197	4496694	4106782	4408693	3683782	4245541	3609083
	FRA	139039	149201	271054	591349	789056	487221	228557	140765	143758
	GBG	39233	36568	27747	38013	38467	33150	63737	16061	59251
	GBJ	108399	113392	51415	67837	82496	76607	67282	39276	10742
	GER	7888128	7629824	7685993	8658165	8286765	8107720	7621618	7287880	6979402
	IOM		1323				11297	32920	44610	37483
	IRL	262092	324436	485929	684600	788199	512648	354820	578708	544247
	NED	10695943	10857827	11306979	13053336	12853706	11422348	10487086	10641085	8444105
	NIR	117904	227443	249612	333945	290949	180242	216731	216596	39502
	SCO	7135045	5854001	6692738	7500337	8458082	5721867	4885111	5111855	4258836
	SWE	3825175	4072727	4331565	4116666	4086483	3423748	3218811	2569261	2798527
TOT NONE		51874256	53967994	53912304	59179436	57947329	47267033	43263319	40951852	37484493
% REGULATED		78.25%	76.93%	76.39%	72.34%	71.42%	74.69%	74.69%	73.98%	73.47%

Table 6.3.1.3 North Sea (incl. 2EU), and Eastern Channel: Difference between the data provided in 2008 and the data provided in 2009 for the period 2000-2007.

REG ARE/	REG GEAI	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
2b	4ai	none	DEN	0.919	0.962	1.344	1.322	2.002	3.669	4.004	3.41
2b	4ai	none	ENG	2.943	2.968	173.557	0.295	11.652	0	56.746	0
2b	4ai	none	FRA	-0.585	-0.881	-0.89	-0.536	-0.757	-0.815	-0.966	-0.949
2b	4ai	none	GER	-0.094	-0.077	-0.333	0.272	0	0	0	0
2b	4ai	none	NED	0	0	17.078	11.488	5.713	3.959	0.441	0.032
2b	4ai	none	NIR	0	0	0	0	0	0	0	0
2b	4ai	none	SCO	0.16	0	0	0	0	0	0	0
2b	4ai	none	SWE	0	0	0	0	0	0	0	0
2b	4aii	IIA83b	SWE	0	0	0	0	0	0	0	0
2b	4aii	IIA83d	ENG					-0.994	-0.995		
2b	4aii	IIA83d	FRA	-0.184	-0.141	-0.144	-0.139	-0.196	-0.267	-0.292	-0.267
2b	4aii	IIA83d	SCO	0.002	0.002	-0.007	-0.004	0	0	0	0
2b	4aiv	IIA83c	ENG	-0.794	-0.798	-0.863	-0.935	-0.782	-0.874	-0.965	-0.976
2b	4aiv	IIA83c	FRA	-0.583	0	-0.581	0	-0.202	0	-0.489	0
2b	4aiv	IIA83c	GER	-0.02	-0.016	-0.013	-0.004	0	-0.011	0.002	-0.004
2b	4aiv	IIA83c	SCO	0	-0.046	-0.073	0	0	0	0	0
2b	4aiv	IIA83d	ENG	-0.998	-0.995	-0.986	-0.995			-0.978	
2b	4aiv	IIA83d	FRA	-0.08	0.033	0.04	-0.058	-0.085	0.015	0.068	-0.024
2b	4aiv	IIA83d	GER	-0.063	-0.045	-0.064	-0.086	-0.067	-0.056	-0.151	-0.069
2b	4aiv	IIA83d	NIR	0	0	0	0	0	-0.923	-0.864	0
2b	4aiv	IIA83d	SCO	0.006	0.003	0.001	0	-0.006	0	0	-0.001
2b	4aiv	IIA83k	FRA	-0.155	-0.121	-0.173	-0.207	0	0	0	0
2b	4aiv	none	DEN	-0.157	-0.18	0.149	0.419	1.177	0.581	-0.015	0.165
2b	4aiv	none	ENG	0.456	0.5	0.899	2.174	2.082	1.907	5.486	1.244
2b	4aiv	none	FRA	-0.191	-0.277	-0.337	-0.455	-0.786	-0.841	-0.568	-0.387
2b	4aiv	none	GER	0.013	-0.006	0.06	0.176	0.029	0.059	0.119	0.021
2b	4aiv	none	IRL	0	0	0	0	0	0	0	0
2b	4aiv	none	NED	0	0	0.12	0.031	0.247	-0.093	-0.156	-0.003
2b	4aiv	none	NIR	0	0	0	0	0	0.683	1.708	0
2b	4aiv	none	SCO	0.003	0.004	0.005	-0.043	0	0	-0.013	0
2b	4aiv	none	SWE	0	0	0	0	0	0	0	0
2b	4av	IIA83c	DEN	0	0					1.977	0.572
2b	4av	IIA83c	ENG	0		-0.647	-0.809	-0.363	-0.979	0.47	-0.338
2b	4av	IIA83c	FRA	0	0	0	0	0	0	-0.48	0
2b	4av	IIA83c	GER	0	0	0	0	0	0	0	0
2b	4av	IIA83c	NIR	0	0	0	0		-0.961	-0.961	-0.98
2b	4av	IIA83c	SCO	0	0	0	0	0	0	0	0
2b	4av	IIA83d	ENG				-0.978	-0.97	-0.972		-0.961
2b	4av	IIA83d	FRA	0.007	9.708	0.354	-0.016	-0.023	-0.027	-0.036	-0.252
2b	4av	IIA83d	GER	0	-0.228	-0.015	-0.009	-0.042	-0.041	-0.055	-0.023
2b	4av	IIA83d	SCO	0	0	-0.002	0	0.001	0	0	0.001
2b	4av	IIA83h	DEN	0	0	0	0	0	0	-0.44	-0.856
2b	4av	none	DEN	0.253	0.219	-0.012	-0.146	-0.147	-0.161	-0.456	-0.38
2b	4av	none	ENG	1.465	1.799	0.166	0.377	0.36	0.533	0.311	0.185
2b	4av	none	FRA	-0.702		-0.177	-0.183		-0.167	-0.006	-0.013
2b	4av	none	GER	-0.999	-0.985	-0.457	-0.444	-0.481	-0.423	-0.312	-0.511
2b	4av	none	NED	0	0	0.537	0.733	0.394	0.136	0.445	0.319
2b	4av	none	NIR	0	0	0	0	0	-0.639	-0.72	56.878
2b	4av	none	SCO	0	0.01	0.006	0.001	0.001	0	0.001	0
2b	4av	none	SWE	0	0	0	0	0	0	0	0
2b	4ci	none	DEN	0.161	0.049	-0.091	0.168	0.13	0.086	0.105	0.062
2b	4ci	none	ENG	0.189	0.003	0.108	0.088	0.127	0.114	0.224	0.187
2b	4ci	none	FRA	0.04	1.539	-0.07	0.376	-0.004	-0.16	-0.515	0.7
2b	4ci	none	GER	-0.007	-0.026	-0.048	-0.037	-0.015	0.017	-0.009	-0.141
2b	4ci	none	NED	0	0	1.346	2.602	5.701	3.712	1.32	1.973
2b	4ci	none	SCO	0	0	0	0	0	0	0	0
2b	4ci	none	SWE	0.591	0.884	0.356	0.398	0.377	0.188	0.137	0.394
2b	4cii	none	DEN	0.167	0.109	-0.063	-0.224	0.068	0.008	-0.038	0.022
2b	4cii	none	ENG	0.241	0.198	0.303	0.201	0.032	0.047	0.004	0.006
2b	4cii	none	FRA	-0.117	-0.204	-0.126	0.241	0.128	-0.187	-0.635	-0.639
2b	4cii	none	GER	-0.039	0	0	-0.028	0	-0.121	-0.141	-0.059
2b	4cii	none	NED	0	0	0	0	26.086	1.715	1.68	2.289
2b	4cii	none	SCO	0	0	0	0	0	0	0	0
2b	4cii	none	SWE	-0.31	-0.227	-0.286	-0.212	-0.215	-0.296	-0.405	-0.535
2b	4ciii	none	DEN	0.26	0.198	0.153	-0.089	0.154	0.166	0.119	-0.006
2b	4ciii	none	ENG	0.01	0.017	0.014	0.01	0.003	0.002	0.001	0.003
2b	4ciii	none	FRA	-0.154	-0.191	-0.259	-0.134	-0.254	-0.158	-0.326	-0.685
2b	4ciii	none	GER	0	0	0.044	-0.038	-0.03	-0.048	-0.034	-0.11
2b	4ciii	none	NED	0	0	0	0	0	14.986	0	4.018
2b	4ciii	none	SCO	0	0	0	0.092	0	0	0	0
2b	4ciii	none	SWE	-0.035	0	0	-0.145	-0.071	-0.633	-0.9	-0.913
2b	4civ	none	DEN	-0.273	-0.1	1.783	1.635	1.146	1.162	1.655	1.013
2b	4civ	none	ENG	0.102	0.262	0.322	0.147	-0.008	-0.008	-0.006	0.001
2b	4civ	none	FRA	0	0		-0.562	-0.347	-0.306	-0.79	-0.64
2b	4civ	none	GER	-0.048	0.037	0.007	0.044	0.061	-0.029	-0.025	-0.012
2b	4civ	none	SCO	0	0	0.022	-0.001	0	0	-0.056	0
2b	4civ	none	SWE	0	0	0	0	0	-0.09	-0.23	-0.617

Table 6.3.1.3 (Continued)

REG ARE/	REG GEAI	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
2b	4d	none	DEN	0	0	384.38	138.656	29.78	15.587	39.598	22.592
2b	4d	none	ENG	-0.084	-0.123	-0.17	7.446	1.536	0.742	-0.286	1.115
2b	4d	none	FRA	0.042	-0.025	-0.158	-0.136	-0.1	-0.366	-0.656	-0.66
2b	4d	none	GER	0	0	0	0	0	0	0	
2b	4e	none	DEN	2.203	3.335	0	27.844	20.855	4.766	0	0
2b	4e	none	ENG	0.135	0.095	0.259	0.527	0.285	0.394	0.569	1.326
2b	4e	none	FRA	-0.967	-0.873	-0.694	-0.658	-0.713	-0.663	-0.911	-0.876
2b	4e	none	NIR	0	0	0	0	0	0	0	0
2b	4e	none	SCO	0.016	0.007	0	0.002	0	0	-0.003	-0.003
2b	4e	none	SWE	0	0	0	0	0	0	0	0
2b	none	none	BEL	0.389	0.431	0.418	0.38	-0.383	-0.251	-0.282	-0.343
2b	none	none	DEN	-0.097	-0.014	-0.05	0.022	-0.032	-0.048	-0.005	0.215
2b	none	none	ENG	0.178	0.145	0.108	0.123	0.079	0.101	0.108	0.127
2b	none	none	FRA	-0.956	-0.963	-0.937	-0.896	-0.86	-0.889	-0.94	-0.947
2b	none	none	GBG	0.002	0.002	0.002	0.002	0.001	0	0	-0.001
2b	none	none	GBJ	0	0.002	0.03	0	0	0	0	0
2b	none	none	GER	-0.087	-0.094	-0.093	-0.089	-0.075	-0.067	-0.09	-0.124
2b	none	none	IOM	0	0	0	0	0	1.095	0.285	0
2b	none	none	IRL	0.033	-0.004	0.044	0.005	0.014	0.036	-0.043	-0.044
2b	none	none	NED	0	0	-0.763	-0.725	-0.772	-0.778	-0.737	-0.722
2b	none	none	NIR	0.012	0	0.212	0.121	0.102	0.053	0.107	0.18
2b	none	none	SCO	-0.006	0.023	0.038	0.01	0.006	-0.006	-0.004	-0.002
2b	none	none	SWE	-0.003	-0.003	-0.002	-0.003	-0.003	-0.003	-0.002	-0.005
2b1	4aii	none	DEN	-0.2	-0.258	-0.085	-0.078	0.002	-0.156	-0.494	-0.024
2b1	4aii	none	GER	-0.218	0	0	0	0	0	0	0
2b1	4aii	none	SWE	0	0	0	0	0	0	0	0
2b1	4aiii	IIA83a	DEN	0	0	0	0	0	0	0.376	0.475
2b1	4aiii	IIA83a	SWE	0	0	0	0	0	0	0	0
2b1	4aiii	IIA83d	SWE	0	0	0	0	0	0	0	0
2b1	4aiii	IIA83l	DEN	0	0	0	0	0	0	0.83	0
2b1	4aiii	none	DEN	-0.139	-0.154	-0.172	-0.124	-0.16	-0.19	-0.473	-0.375
2b1	4aiii	none	GER	0	0	0	0	-0.276	0	0	0
2b1	4aiii	none	NED	0	0	0		0	0	0	0
2b1	4aiii	none	SWE	0	0	0	0	0	0	0	0
2b1	4aiv	IIA83a	DEN	0	0	0	0	0	0	-0.414	-0.543
2b1	4aiv	IIA83a	SWE	0	0	0	0	0	0	0	0
2b1	4av	IIA83a	DEN	0	0	0	0	0	0	4.355	7.758
2b1	4av	IIA83a	SWE	0	0	0	0	0	0	0	0
2b1	4av	IIA83j	DEN	0	0	0	0	0	0	1.805	3.264
2b12	4bi	none	BEL	0.371	0.296	0.382	0.299	0.383	0.281	0.415	0.404
2b12	4bi	none	DEN	0	0.91	0.403	-0.152	0	-0.5	0.334	0
2b12	4bi	none	ENG	0.002	0.001	0	0	0	0	0	0
2b12	4bi	none	FRA	-0.175	-0.263	-0.139	-0.131	-0.425	-0.334	-0.491	-0.346
2b12	4bi	none	GER	-0.033	-0.018	-0.034	-0.042	-0.01	-0.016	-0.008	-0.006
2b12	4bi	none	NED	0	0	0.263	0.281	0.179	0.136	0.16	0.103
2b12	4bi	none	NIR	0	0	0	0	0	0	0	0
2b12	4bi	none	SCO	0	0	0	0	0	0	0	-0.003
2b12	4bii	none	DEN	1.594	0	0.036	-0.769	0.028	1	0.001	0
2b12	4bii	none	ENG	0.023	0	0	0	0	0	0	0
2b12	4bii	none	FRA	-0.327	-0.326	-0.398	-0.564	-0.299	-0.455	-0.626	0
2b12	4bii	none	GER	0	0	-0.075	-0.038	0.018	-0.065	-0.054	-0.114
2b12	4bii	none	NED	0	0	-0.009	-0.315	-0.464	0.643	1.262	0.074
2b12	4bii	none	SCO	0	0	0	0	0	0	0	0
2b12	4biii	IIA83c	ENG	0.616	0.843	0.129	0.044	0.018	0.219	0.246	0.195
2b12	4biii	IIA83c	FRA	-0.255	-0.459	0	0	0	-0.089	0	0
2b12	4biii	IIA83c	GER	-0.015	-0.009	-0.005	-0.016	-0.015	0	0	0
2b12	4biii	IIA83c	NIR	0.343	0.439	0	0	0	0	0	0
2b12	4biii	IIA83c	SCO	0	0.015	0.004	0.018	0	0	0	0
2b12	4biii	IIA83i	ENG	-0.26	-0.632	-0.757	-0.43	-0.404	-0.925	-0.899	-0.891
2b12	4biii	IIA83i	NIR	0	-0.84	0	0	0	0	0	0
2b12	4biii	none	BEL	0.387	0.336	0.384	0.061	-0.536	-0.134		4.067
2b12	4biii	none	DEN	-0.027	-0.049	-0.049	-0.092	-0.25	-0.248	0.019	-0.407
2b12	4biii	none	ENG	-0.889	-0.913	0.02	0	0	0	0	0
2b12	4biii	none	FRA	0	0	-0.468	0	0	0	0	0
2b12	4biii	none	GER	-0.036	-0.017	0	-0.066	-0.037	0	0	0
2b12	4biii	none	NED	0	0	-0.15	-0.096	-0.024	-0.203	0.17	0.553
2b12	4biii	none	NIR	-0.924	0	0	0	0	0	0	0
2b12	4biii	none	SCO	0	0	0	0.084	0	0	0	0

Table 6.3.1.3 (Continued)

REG ARE/	REG GEAI	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
2b12	4biv	IIA83c	DEN	0	0					0	1.11
2b12	4biv	IIA83c	ENG	-0.267	0.283	0.484	0.083	0.087	0.219	0.303	0.246
2b12	4biv	IIA83c	GER	0	0	-0.024	-0.044	0	-0.25	0	0
2b12	4biv	IIA83c	NIR	0	0	0.217	0.246	0.016	0	0	0
2b12	4biv	IIA83c	SCO	0	0	0	0	0	0	0	0
2b12	4biv	IIA83e	DEN	0	0	0	0	0	0	0.575	0
2b12	4biv	IIA83e	GER	0	0	-0.006	0	0	0	0	0
2b12	4biv	IIA83i	ENG	0	-0.782	-0.351	-0.397	-0.362	-0.618	-0.71	-0.779
2b12	4biv	IIA83i	NIR	0	0	-0.618	-0.939	-0.659	0	0	0
2b12	4biv	none	BEL	0.436	0.436	0.37	0.579	0.436	0.749	0.55	0.709
2b12	4biv	none	DEN	0.095	0.413	21.012	5.963	4.249	24.169	-0.487	-0.099
2b12	4biv	none	ENG			-0.986			0	0	0
2b12	4biv	none	FRA	0	0	-0.584	0	0	0	0	0
2b12	4biv	none	GER	0	-0.027	-0.022	-0.005	-0.03	0	-0.014	-0.042
2b12	4biv	none	NED	0	0	0.048	-0.234	-0.423	-0.391	-0.06	-0.2
2b12	4biv	none	SCO	0	0	0	0	0	0	0	0.002
2b12	4d	IIA83g	ENG	29.755	27.136	19.821	0	0	1.721	3.385	0.331
2b12	4d	IIA83g	FRA	-0.628	-0.529	-0.295	-0.126	0.021	-0.12	-0.613	-0.591
2b2	4aii	IIA83c	ENG						-0.998		
2b2	4aii	IIA83c	GER	-0.007	-0.007	-0.033	-0.007	-0.005	-0.002	0.104	-0.02
2b2	4aii	IIA83c	SCO	0	0.003	0	0	0	0	0	0
2b2	4aii	none	DEN	-0.24	-0.309	0.492	0.31	0.216	0.13	-0.287	-0.141
2b2	4aii	none	ENG	1.15	1.073	1.103	1.034	1.14	1.229	1.18	1.339
2b2	4aii	none	FRA	-0.153	-0.118	-0.121	-0.116	-0.127	-0.134	-0.153	-0.141
2b2	4aii	none	GER	-0.024	-0.025	-0.025	-0.024	-0.02	-0.025	-0.013	-0.006
2b2	4aii	none	IRL	0	0	0	0	0	0	0	-0.027
2b2	4aii	none	NED	0	0	1.018	0.565	0.221	0.076	-0.113	0.012
2b2	4aii	none	NIR	0	0	0.496	0	4.848	0.369	-0.015	0.428
2b2	4aii	none	SCO	0	0	0	0.003	-0.002	0	0	0
2b2	4aii	none	SWE	0	0	0	0	0	0	0	0
2b23	4aiii	IIA83a	DEN	0	0	0	0	0	0	0	0.108
2b23	4aiii	IIA83a	SWE	0	0	0	0	0	0	0	0
2b23	4aiii	IIA83d	ENG				-0.908		-0.996		
2b23	4aiii	IIA83d	FRA	-0.21	-0.126	-0.168	-0.134	-0.214	-0.334	-0.412	-0.356
2b23	4aiii	IIA83d	SCO	0	0	0	0	0	0	0	0
2b23	4aiii	IIA83l	DEN	0	0	0	0	0	0	0.27	0
2b23	4aiii	none	DEN	-0.303	-0.29	-0.287	-0.257	-0.244	-0.201	-0.475	-0.38
2b23	4aiii	none	ENG	5.093	4.44	21.271	1.385	3.241	4.066	2.241	2.971
2b23	4aiii	none	FRA	-0.171	-0.163	-0.099	-0.123	-0.152	-0.171	0.054	-0.433
2b23	4aiii	none	GER	0	0	0	-0.002	-0.006	0	0.023	-0.012
2b23	4aiii	none	IRL	0	0	0	0	0	0	0	0
2b23	4aiii	none	NED	0	0	0.458	0.043	0.027	0.675	-0.112	-0.075
2b23	4aiii	none	NIR	0	0	0	0	0	0.164	0.989	0.928
2b23	4aiii	none	SCO	0	0	0	0	0	0	-0.001	0
2b23	4aiii	none	SWE	0	0	0	0	0	0	0	0
2b23	4aiv	IIA83a	DEN	0	0	0	0	0	0	-0.351	
2b23	4av	IIA83a	DEN	0	0	0	0	0	0	0.334	0.049
2b23	4av	IIA83a	SWE	0	0	0	0	0	0	0	0
2b23	4av	IIA83j	DEN	0	0	0	0	0	0	0.618	0.831
2b3	4aii	none	ENG	4.702	9.297	12.479	5.291	25.977	4756.568	37.858	32.204
2b3	4aii	none	FRA	-0.087	-0.056	-0.012	0.016	-0.039	-0.125	-0.251	-0.256
2b3	4aii	none	GBG	0	0	0	0	0	0	0	0
2b3	4aii	none	NED	0	0	17.503	5.735	5.526	2.282	0.106	0.357
2b3	4aii	none	SCO	0	0	0	0	0	0	0	0.014
2b3	4bi	none	BEL	0.438	0.479	0.365	0.322	0.429	0.411	0.352	0.385
2b3	4bi	none	ENG	0.011	0.004	0	0	0	0	0	0
2b3	4bi	none	FRA	-0.002	0.01	0.035	0.106	-0.166	-0.182	-0.269	-0.271
2b3	4bi	none	GBJ	0	0	0	0	0	-0.177	0	0
2b3	4bi	none	NED	0	0		0	1.335	0	0	
2b3	4bi	none	SCO	0	0	0	0	0	0	0	0
2b3	4bii	none	ENG	0	0	0	0	0	0	0	0
2b3	4bii	none	FRA	-0.064	-0.184	-0.17	-0.214	0.047	-0.099	-0.298	-0.49
2b3	4biii	IIA83c	ENG	-0.173	0.17	-0.027	2.223	0	0	0	0
2b3	4biii	IIA83c	FRA	-0.079	-0.166	0	0	0	0	0	0
2b3	4biii	IIA83i	ENG	0	-0.28	0.168		0	0	0	0
2b3	4biii	none	ENG	-0.754	0	0	0	0	0	0	0
2b3	4biii	none	FRA	-0.188	-0.094	0	0	0	0	0	0
2b3	4biv	IIA83c	ENG	0	0	0	0	0	0	0	0
2b3	4civ	IIA83f	FRA	0	0	0	0	-0.412	0	0	-0.53
2b3	4d	IIA83g	ENG	0	0.072	-0.285	-0.558	-0.203	-0.092	-0.045	-0.087
2b3	4d	IIA83g	FRA	-0.571	-0.074	-0.075	-0.068	-0.041	-0.153	-0.544	-0.526

Table 6.1.1.4 Summary of Effort kW*days by Annex II gear categories.

REG GEAI	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008
4ai	none	7155444	5315368	5669965	5268929	5509926	5050360	3737835	2490943	2017359
4aii	IIA83b					308459	542007	664971	894575	735039
	IIA83c	97779	122269	142601	166743	142726	159672	100342	152801	99519
	IIA83d	4878746	7907065	8294608	10999752	10915911	9818674	9411748	7706638	7003599
	none	11682049	11876703	17649140	17450224	14910236	14813632	13389519	12986183	14012421
4aiii	IIA83a						666398	2097927	1551363	2175748
	IIA83d	178144	371750	458280	536181	599992	261004	140898	66868	24054
	IIA83l							494435	20903	
	none	5117234	5274479	6069219	8977733	10602624	7612570	5146542	6049324	4982635
4aiv	IIA83a							88894	53475	9130
	IIA83c	573819	489787	375288	289679	307312	212142	239024	178870	191456
	IIA83d	7895727	6509195	5977493	4128317	3081705	3221145	3326207	3298652	3117964
	IIA83k	29213	15694	11552	5468			515		4680
	none	51405633	47678752	20484819	2867664	2115903	2405150	3335508	3569729	4660293
4av	IIA83a							611697	245026	249763
	IIA83c	6208		20149	12647	31716	2059	55019	39018	89165
	IIA83d	43272	111808	737329	1066584	1021764	1065419	1031455	882485	887676
	IIA83h							175211	67918	134183
	IIA83j							2363330	1581149	235587
	IIA83k									253
	none	1467331	1159616	22166416	25545275	20568439	20702527	16436940	14559435	16676119
4bi	none	70034912	69292288	65176600	59573061	57584016	56974155	49921256	49804915	37337146
4bii	none	110995	169796	225070	175339	197799	135281	193914	115754	116410
4biii	IIA83c	8122632	7743596	3395284	2885395	3271969	3099185	2261497	1585114	1118241
	IIA83i	826673	356056	51226	62620	43403	25476	25897	23319	27215
	none	6109118	4743748	1804134	1984816	1625092	1475319	1516843	666977	570268
4biv	IIA83c	174729	520484	2901688	2111231	1312534	790355	1350988	370578	221597
	IIA83e			33969	1760			425142	12279	
	IIA83i	71601	3581	588257	115381	85547	61698	114486	16250	11433
	none	2566238	2167897	3976271	3829276	3879682	3988343	3657726	3124942	1850175
4ci	none	1119784	1040444	774666	881805	927111	936958	881048	701033	857510
4cii	none	1484779	1628342	1318653	1186633	1040847	1022618	956565	711695	681003
4ciii	none	2783504	2484451	2335655	1268933	1163047	1052951	879750	366430	463289
4civ	IIA83f	2515	3012	6700	2312	5567	1656	1705	726	282
	none	697649	651534	661490	638358	643582	534083	693178	520166	662165
4d	IIA83g	137617	812962	1867827	1731072	1916748	1839710	1047850	1157224	1534061
	none	946439	649243	301147	272812	395040	428299	324118	264059	348739
4e	none	775302	655873	832588	400665	274529	293244	270076	249345	476071
none	none	52042441	54139733	54061823	59547173	58262893	47567451	43531077	41281529	37723582
Grand Total		2.39E+08	2.34E+08	2.28E+08	2.14E+08	2.03E+08	1.87E+08	1.71E+08	1.57E+08	1.41E+08

Table 6.3.1.5 Summary of effort by kW*days by cod plan gears.

REG GEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008
BT1	2812568	2691962	7500185	6057648	5277763	4840396	5548342	3524049	2083205
BT2	85204330	82305484	70652314	64681231	62722279	61709416	53919407	52196079	39169280
GN1	6256416	5979522	5246683	4345778	4095718	3848684	3680004	2629727	2903338
GT1	1084056	1462205	2168974	2003884	2311788	2268009	1371968	1421283	1882800
LL1	775302	655873	832588	400665	274529	293244	270076	249345	476071
TR1	61421203	55964852	49773046	33915634	27126839	27608442	27663800	24475757	26256269
TR2	21953952	25552266	32613848	38130633	37479948	33873957	31446382	29428655	29033015
TR3	7155444	5315368	5669965	5268929	5509926	5050360	3737835	2490943	2017359
TOT REGULATED	186663271	179927532	174457603	154804402	144798790	139492508	127637814	116415838	103821337
TOT NONE	51874256	53967994	53912304	59179436	57947329	47267033	43263319	40951852	37484493
% REGULATED	78.25%	76.93%	76.39%	72.34%	71.42%	74.69%	74.69%	73.98%	73.47%

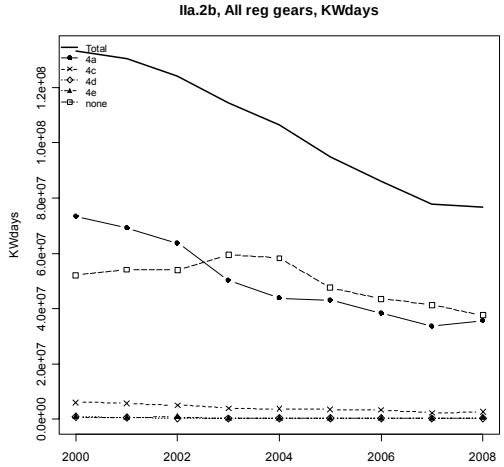


Figure 6.3.1.1. Area 2b (Skagerrak, North Sea & Eastern Channel), total effort by regulated gears.

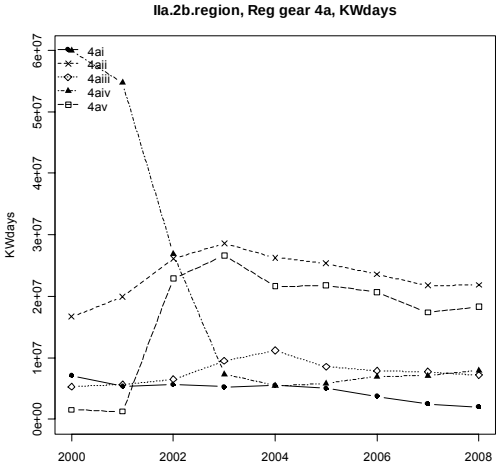


Figure 6.3.1.2. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated trawl gears.

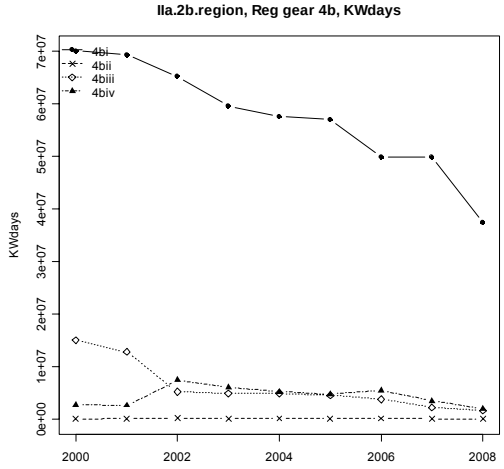


Figure 6.3.1.3. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated beam trawls.

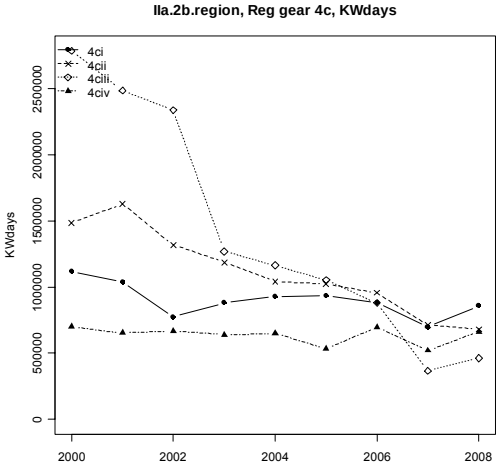


Figure 6.3.1.4. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gillnetters.

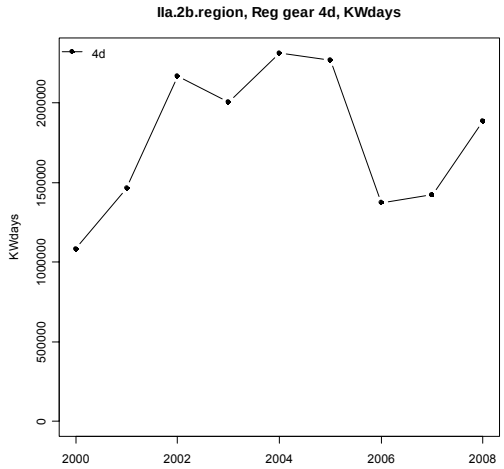


Figure 6.3.1.5. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated trammel netters.

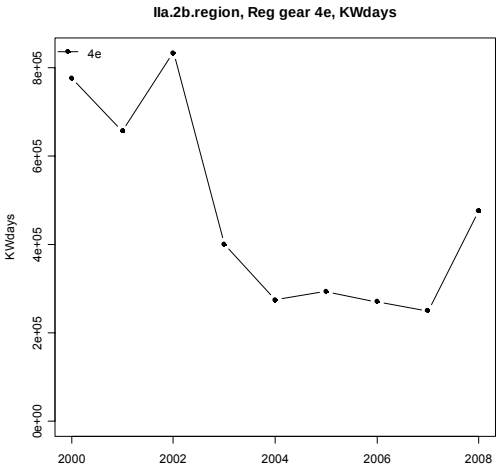


Figure 6.3.1.6. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated longliners.

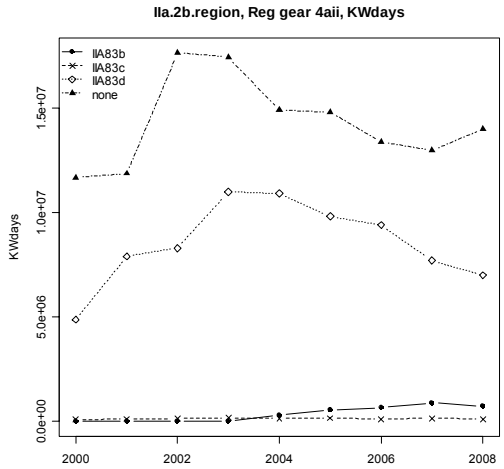


Figure 6.3.1.7. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4aii showing breakdown by special condition.

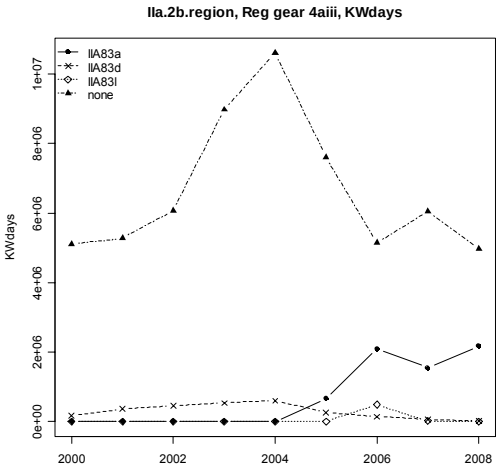


Figure 6.3.1.8. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4aiii showing breakdown by special condition.

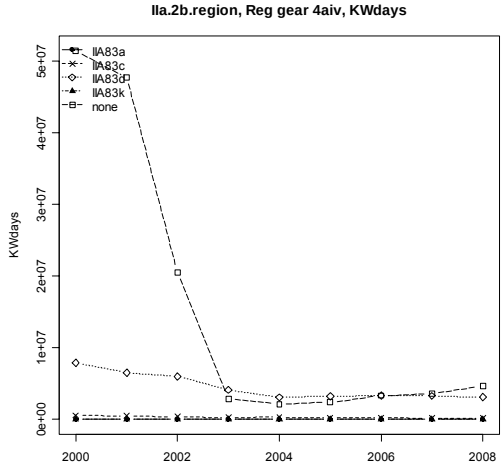


Figure 6.3.1.9. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4aiv showing breakdown by special condition.

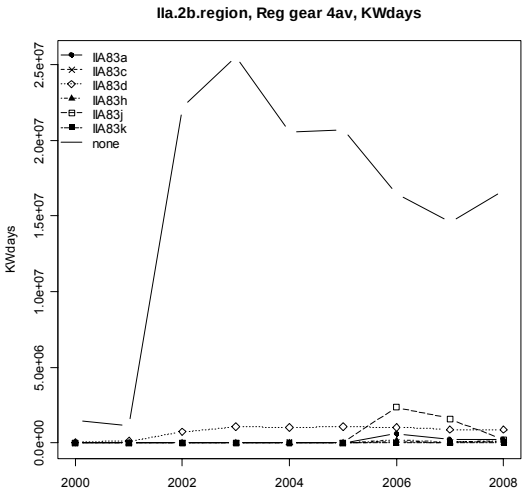


Figure 6.3.1.10. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4av showing breakdown by special condition.

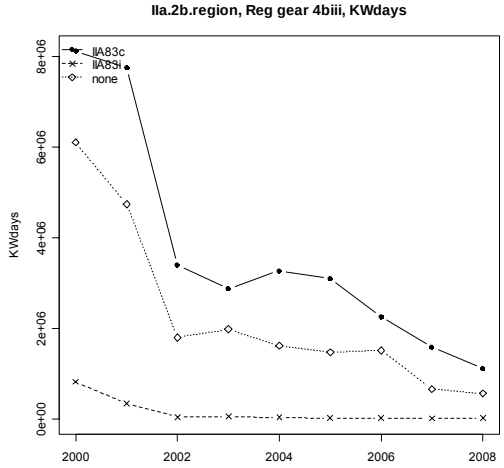


Figure 6.3.1.11. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4biii showing breakdown by special condition.

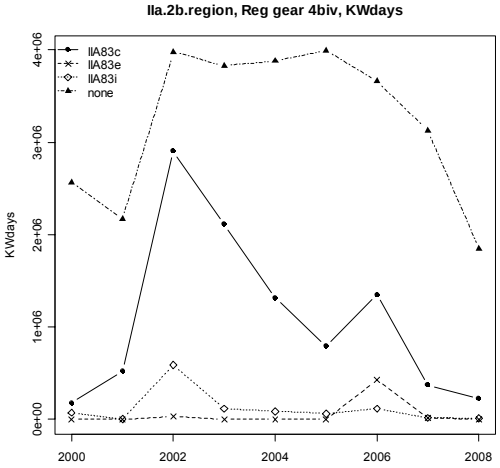


Figure 6.3.1.12. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4biv showing breakdown by special condition.

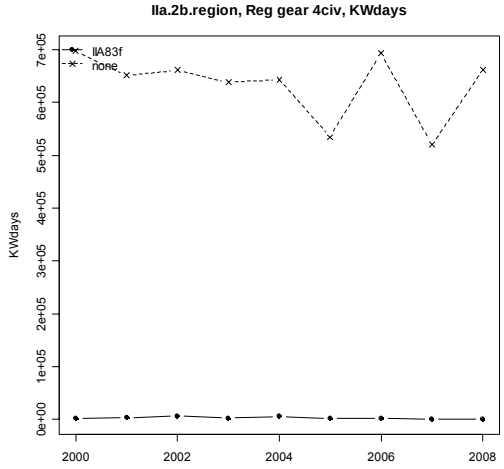


Figure 6.3.1.13. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4civ showing breakdown by special condition.

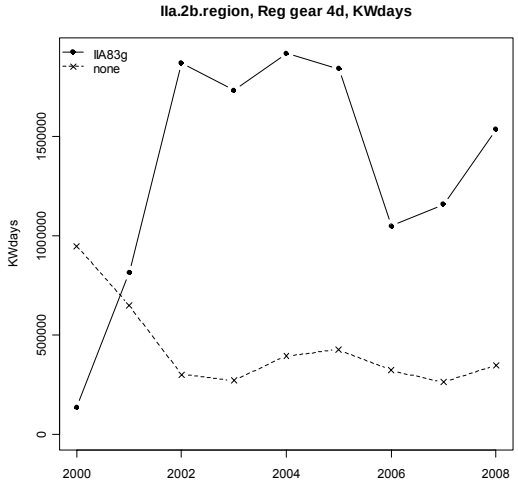


Figure 6.3.1.14. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by regulated gear 4d showing breakdown by special condition.

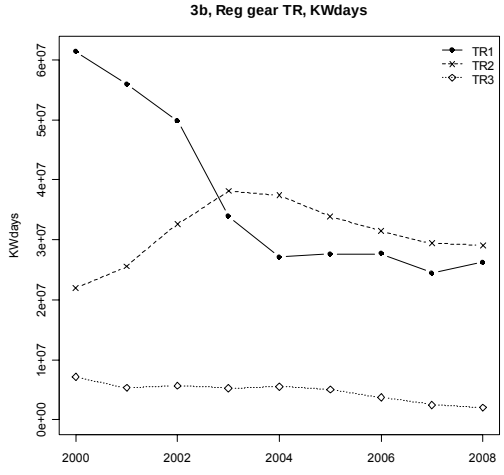


Figure 6.3.1.15. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by cod plan regulated trawls gears

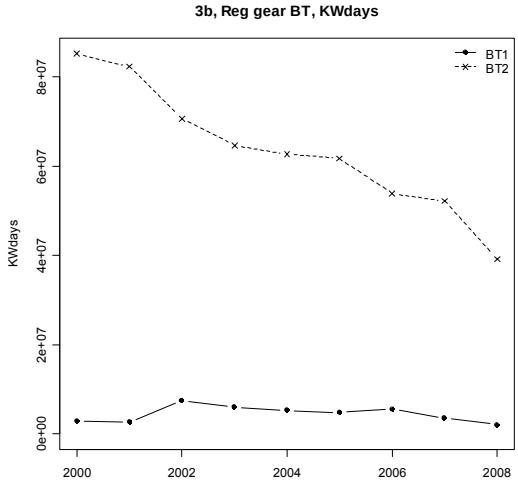


Figure 6.3.1.16. Area 2b (Skagerrak, North Sea & Eastern Channel), effort by cod plan regulated beam trawls gears

6.3.2. Trend in catch estimates in weight and numbers at age by derogation in management area 2b: Skagerrak, North Sea (incl. 2EU), and Eastern Channel

Estimated landings and discards of cod, haddock, whiting, anglerfish, saithe, hake, *Nephrops*, plaice and sole by cod plan gear category for the whole area are given in Table 6.3.2.1. Detailed data on age compositions of landings and discards of cod, plaice and sole are not given in a table here, but are available on the web site:

https://stecf.jrc.ec.europa.eu/meetings/2009?p_p_id=62_INSTANCE_ujGU&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_ujGU_struts_action=%2Fjournal_articles%2Fview&_62_INSTANCE_ujGU_groupId=1416&_62_INSTANCE_ujGU_articleId=132840&_62_INSTANCE_ujGU_version=1.0. This year, a number of figures were included in the report, displaying total landings (white) and discards (grey – when available) in weight for all regulated gears from 2003 to 2008 (Figures 6.3.2.1 to 6.3.2.8), as well as in landings and discards in numbers at age (Figures 6.3.2.9 to 6.3.2.20).

Because of the limited availability and reliability of discard information for some species and from some countries contributing landings information to the dataset, care is required in the use of these data to draw firm conclusions about catch composition. In addition, the procedure used to raise discards and explained in section 5.6 may not be fully consistent with the procedures used in other contexts and therefore may not be directly comparable.

The significantly lower number of gear categories and sub-areas in the cod plan makes it much easier to summarise recent trends compared to previous years report. Therefore, figures and tables only display information in these categories. But all information concerning the 2008 Annex IIa categories have been produced as well and is available on the web.

In TR1, cod landings have been kept remarkably constant over the period; haddock landings have slightly decreased, while plaice, saithe and whiting landings have increased. Whitefish landings in TR2 have globally decreased while Nephrops landings have increased. Catches of plaice and sole have significantly decreased in BT2. No clear trends were observed for GT1 with regards to sole, plaice and cod. Finally, an increasing part of the GN1 catches come from anglerfish, while catches of cod, plaice and sole are decreasing.

Age composition plots show high discarding of young cod ages 1 and 2 in 2006 and 2007, mostly in TR2 gear, but lower discards rates in 2008.

Table 6.3.2.1 Skagerrak, North Sea (incl. 2EU), and Eastern Channel: Landings (t), discards (t) and relative discard rates in weight by species and regulated gear, 2003-2008.

SPECIES	REG_GEAR	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
ANF	BT1	312			381			359			199	13	0.06	207			162	1	0.01
ANF	BT2	132			96	6	0.06	81	14	0.15	71	7	0.09	88	9	0.09	92	6	0.06
ANF	GN1	748			969			938			1093			1286			1459		
ANF	GT1	6			20			3			3			1			1		
ANF	LL1	1									1								
ANF	TR1	5642	480	0.08	5548	420	0.07	7149	745	0.09	6986	1050	0.13	7475	737	0.09	7677	387	0.05
ANF	TR2	1946	23	0.01	1911	3		1944	11	0.01	1861	75	0.04	1729	93	0.05	1856	53	0.03
ANF	TR3	61			99			27			12			11			2		
ANF	unreg.	77	0		92	0		54	0		24	0		28	0		37	0	
ARU	GN1																		
ARU	TR1	13			6			5			2								
ARU	TR2	200	19	0.09	123														
ARU	TR3	124			30			164			195			237			23		
ARU	unreg.	789	0		1341	0		552	0		372	0		0	0		0	0	
BLI	BT1																		
BLI	BT2																		
BLI	GN1																		
BLI	TR1	24	46	0.66	21	45	0.68	9	29	0.76	32	69	0.68	10	3	0.23	14	7	0.33
BLI	TR2	13			5														
BLI	unreg.	5	0		14	0		47	0		18	0		0	0		0	0	
BSF	BT2																		
BSF	TR1																		
BSF	TR2																		
COD	BT1	675			1181			1112			988	321	0.25	686			337	212	0.39
COD	BT2	3395			2417	1404	0.37	2207	755	0.25	2271	438	0.16	2087	219	0.09	2619	938	0.26
COD	GN1	3408	5		4037	4		3742	11		3246			2428			2515		
COD	GT1	498			340			343			344			346			373		
COD	LL1	211			127			109			121			112			95		
COD	TR1	11556	1406	0.11	10491	1665	0.14	11550	1978	0.15	11332	2950	0.21	10664	6698	0.39	11395	14045	0.55
COD	TR2	4480	2536	0.36	3784	3410	0.47	3446	3508	0.5	3076	6829	0.69	3109	13673	0.81	2922	6266	0.68
COD	TR3	52			30			40			32			5			57		
COD	unreg.	448	9	0.02	358	0		358	2674	0.88	275	0		174	147	0.46	231	3805	0.94
CYO	GN1	10			1			1			1								
CYO	TR1	1												2					
CYP	TR1																		
ETX	TR1																		
ETX	TR3	33			6			16			8			9			46		
ETX	unreg.	7	0		0	0		0	0		9	0		0	0				
FOX	BT2																		
FOX	GN1	3			1						2			1			1		
FOX	LL1										2								
FOX	TR1	5			3			4			2			1			1		
GUP	GN1	8																	
GUP	TR1																		
GUQ	GN1	5																	
GUQ	TR1																		
GUQ	TR2																		
GUQ	unreg.	0	0																
HAD	BT1	332			306			126			81	2	0.02	117			54		
HAD	BT2	167	7	0.04	127	10	0.07	59	15	0.2	16	3	0.16	16	2	0.11	20	9	0.31
HAD	GN1	221	86	0.28	165			97			78			58			47		
HAD	GT1	4			4			2			1			1			1		
HAD	LL1	72			20			21			55			6			3		
HAD	TR1	34225	18690	0.35	40045	9785	0.2	40678	4249	0.09	31408	7336	0.19	26338	16223	0.38	26208	6738	0.2
HAD	TR2	5361	5721	0.52	5052	3448	0.41	4825	2802	0.37	3961	9497	0.71	3252	14322	0.81	3412	7035	0.67
HAD	TR3	203			94			54			282			5			109		
HAD	unreg.	311	73	0.19	144	0		90	48	0.35	197	0		61	51	0.46	55	16	0.23
HKE	BT1	49			78			70			60			60			40		
HKE	BT2	14			16	2	0.11	20	2	0.09	10	5	0.33	9			11		
HKE	GN1	509			477			530			596			336			376		
HKE	GT1	1			1			2			1			1			17		
HKE	LL1																997		

Table 6.3.2.1 (Continued)

SPECIES	REG_GEAR	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
MAC	BT1																		
MAC	BT2	33			6			32			3			3			1		
MAC	GN1	48			42			32			27			26			45		
MAC	GT1	3			5			9			12			3			1		
MAC	LL1	108			99			192			209			218			352		
MAC	TR1	314	3E+05	1	359	2E+05	1	654	1E+05	0.99	9	224	0.96	421	3455	0.89	15	1549	0.99
MAC	TR2	6446	583	0.08	5202	111	0.02	3961	558	0.12	3406	4054	0.54	3203	2461	0.43	3855	25892	0.87
MAC	TR3	1082			4102			1156			1232			526			847		
MAC	unreg.	1E+05	0		1E+05	0		80595	7531	0.09	63267	109	0.00	88120	0		83784	571	0.01
NEP	BT1	3			1														
NEP	BT2	38			41			76	8	0.1	59			93			31		
NEP	GN1	1																	
NEP	GT1																		
NEP	LL1																		
NEP	TR1	1744	780	0.31	1341	451	0.25	2125	606	0.22	2056	964	0.32	1876	725	0.28	1589	396	0.2
NEP	TR2	13866	13708	0.5	17192	13105	0.43	19336	20240	0.51	21337	48541	0.69	21914	29708	0.58	20590	31344	0.6
NEP	TR3	17			16			5			20			11					
NEP	unreg.	354	0		159	0		148	62	0.30	161	0		146	6	0.04	191	8	0.04
PLE	BT1	7151	178	0.02	6176			5102			7660	88	0.01	5241			3012	63	0.02
PLE	BT2	43133	43680	0.5	41589	35188	0.46	37790	28311	0.43	35892	28500	0.44	34830	25143	0.42	31631	23091	0.42
PLE	GN1	4500	399	0.08	2958	339	0.1	2734	528	0.16	2917			1523			1731	254	0.13
PLE	GT1	1001			1272			1462			1340			987			663		
PLE	LL1	1			11			1			2								
PLE	TR1	6875	1841	0.21	7837	1488	0.16	7905	867	0.1	11392	2629	0.19	9672	1668	0.15	14608	1640	0.1
PLE	TR2	9295	9917	0.52	8823	7263	0.45	5750	7098	0.55	4945	9969	0.67	4380	3417	0.44	4657	4331	0.48
PLE	TR3	46			25			21			34			7			1		
PLE	unreg.	692	0		237	0		190	21	0.10	129	0		133	483	0.78	60	0	
POK	BT1	31			15			9			11			10			4	2	0.33
POK	BT2	4			8			1			1			1					
POK	GN1	149			106			86			72			49			43		
POK	GT1	7			3			3			4			2			2		
POK	LL1	14			20			3			18			2			3		
POK	TR1	35709	30577	0.46	32904	23857	0.42	35433	14863	0.3	43683	11447	0.21	39475	31827	0.45	46464	4335	0.09
POK	TR2	3355	818	0.2	3429	1128	0.25	3462	1203	0.26	3629	1157	0.24	2630	863	0.25	3614	19728	0.85
POK	TR3	379			324			172			145			48			17		
POK	unreg.	699	0		885	48	0.05	759	10	0.01	865	0		338	16	0.05	369	215	0.37
RAJ	BT1																		
RAJ	GN1	1			1			1			1						1		
RAJ	GT1																		
RAJ	LL1																		
RAJ	TR1	28	4071	0.99	24	2371	0.99	24	2467	0.99	36	3229	0.99	29	1828	0.98	24	1963	0.99
RAJ	TR2	64	1734	0.96	79	4331	0.98	9	1204	0.99	7	1242	0.99	4	1224	1	3	539	0.99
RAJ	TR3	2			10			1											
RAJ	unreg.	7	0		96	0		58	0		60	0		1	0		1	0	
RNG	BT1																		
RNG	GN1				1														
RNG	TR1	15										9	1		5	1		5	1
RNG	TR2	1205	51	0.04	1082	5E+05	1	36	146	0.8	1	279	1					170	1
RNG	TR3	512			1808			363			15								
RNG	unreg.	2477	0		5536	0		10711	1E+06	0.99	2065	0		0	0		0	1	1
SHO	TR3				2														
SHO	unreg.				0	0													
SOL	BT1	97			68			36			49			30			24		
SOL	BT2	18955	2002	0.1	19300	2591	0.12	16250	1345	0.08	12927	1419	0.1	15375	865	0.05	13976	602	0.04
SOL	GN1	898			796			830			708			536			718		
SOL	GT1	2124			1951			2169			2011			2162			2055		
SOL	LL1																		
SOL	TR1	29			20	2	0.09	19			30	17	0.36	28			35		
SOL	TR2	894	5	0.01	803	155	0.16	628	3		722	3651	0.83	776	174	0.18	809	543	0.4
SOL	TR3	6			1			3			2			1			7		
SOL	unreg.	238	0		187	0		112	0		87	0		51	0		59	0	
WHB	GT1	8																	

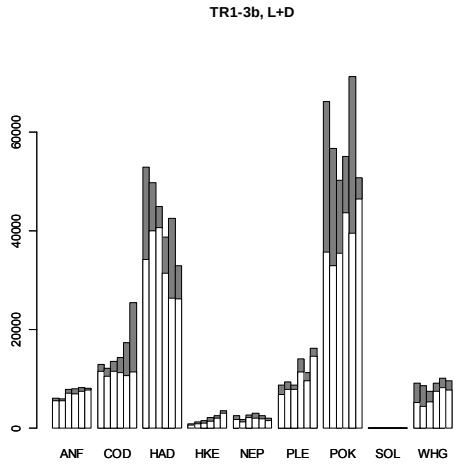


Figure 6.3.2.1. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings (white) and discards (grey) in weight 2003-2008 by TR1 gears .

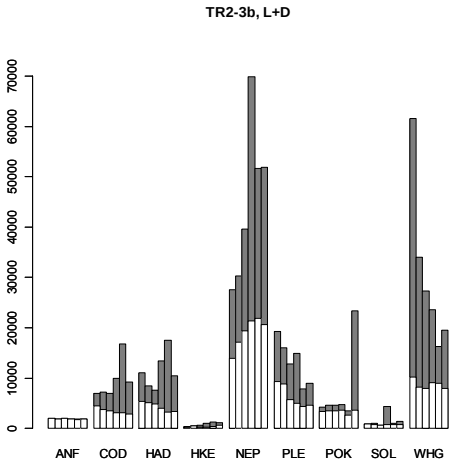


Figure 6.3.2.2. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings (white) and discards (grey) in weight 2003-2008 by TR2 gears .

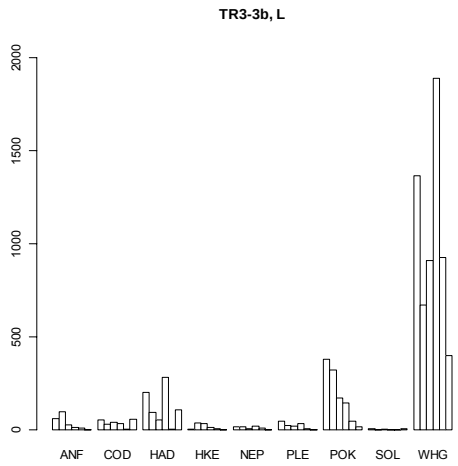


Figure 6.3.2.3. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings in weight 2003-2008 by TR3 gears (no discards data available) .

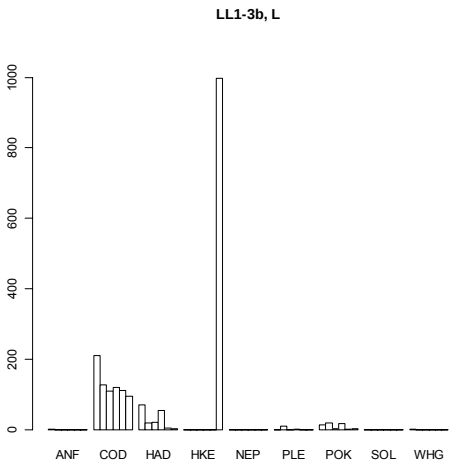


Figure 6.3.2.4. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings in weight 2003-2008 by LL1 gears (no discards data available) .

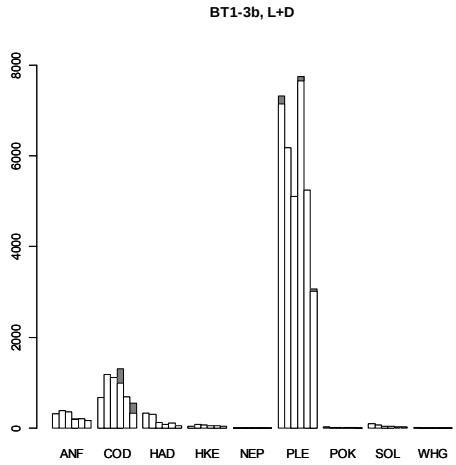


Figure 6.3.2.5. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings (white) and discards (grey) in weight 2003-2008 by BT1 gears .

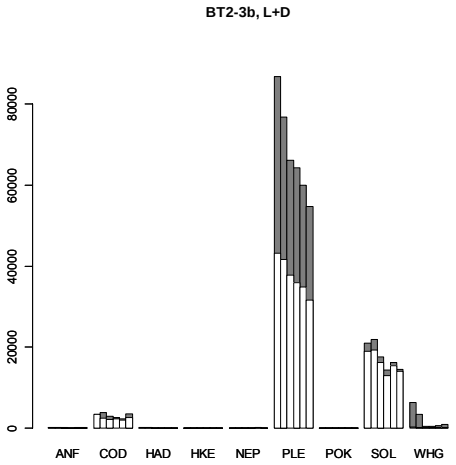


Figure 6.3.2.6. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings (white) and discards (grey) in weight 2003-2008 by BT2 gears .

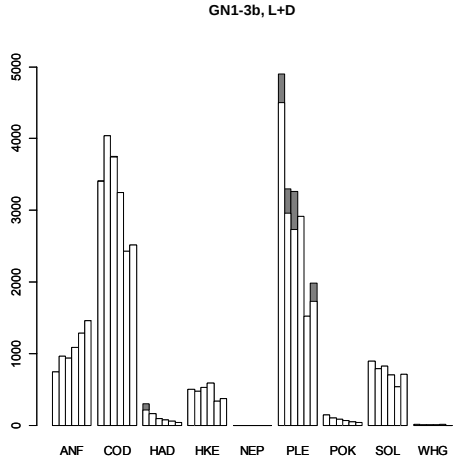


Figure 6.3.2.7. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings (white) and discards (grey) in weight 2003-2008 by GN1gears .

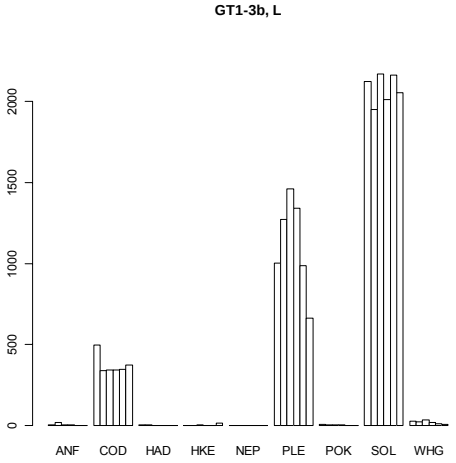


Figure 6.3.2.8. Area 3b (Skagerrak, North Sea & Eastern Channel), total landings in weight 2003-2008 by GT1 gears (no discards data available) .

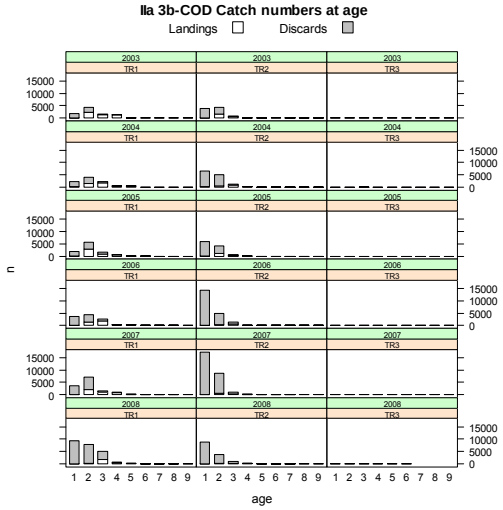


Figure 6.3.2.9. Area 3b (Skagerrak, North Sea & Eastern Channel), COD landings and discards at age in number by TR gears.

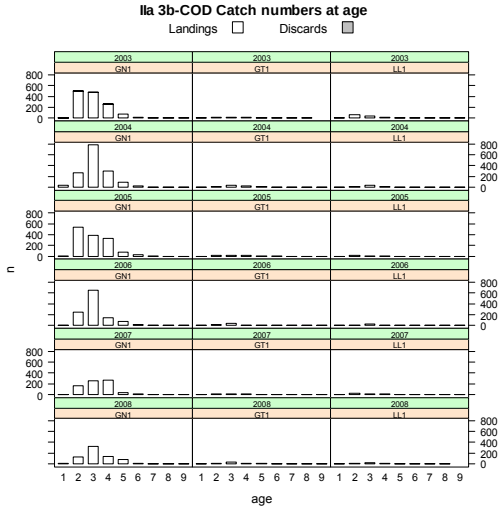


Figure 6.3.2.10. Area 3b (Skagerrak, North Sea & Eastern Channel), COD landings and discards at age in number by static gears .

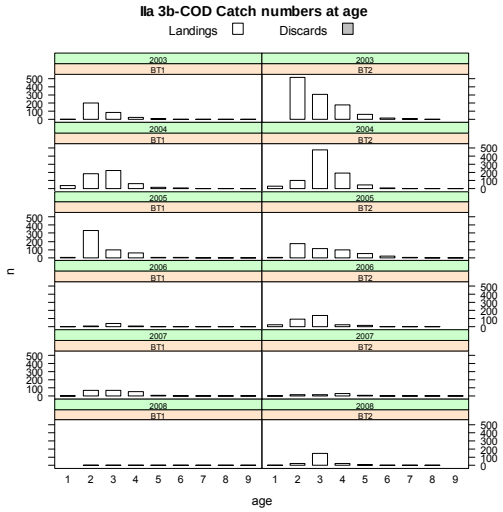


Figure 6.3.2.11. Area 3b (Skagerrak, North Sea & Eastern Channel), COD landings and discards at age in number by BT gears.

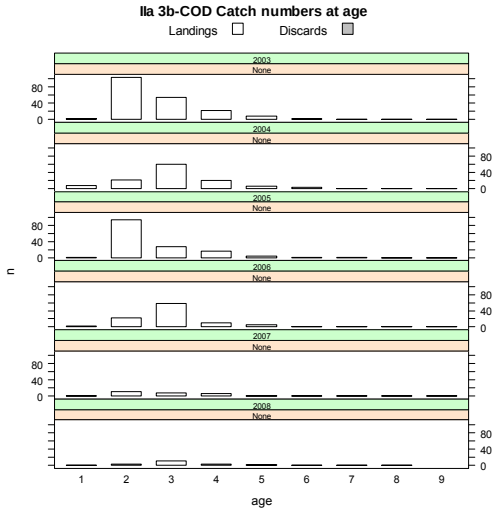


Figure 6.3.2.12. Area 3b (Skagerrak, North Sea & Eastern Channel), COD landings and discards at age in number by unregulated gears .

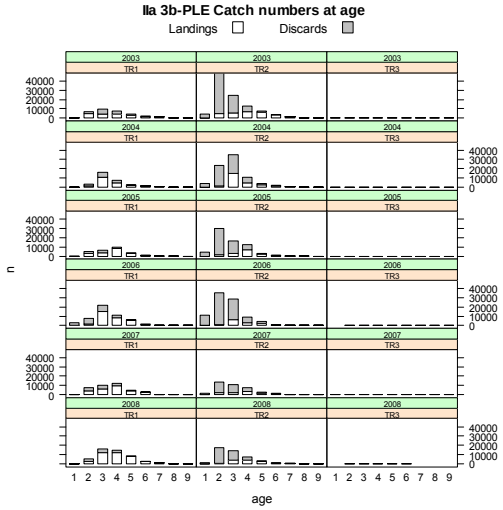


Figure 6.3.2.13. Area 3b (Skagerrak, North Sea & Eastern Channel), PLE landings and discards at age in number by TR gears.

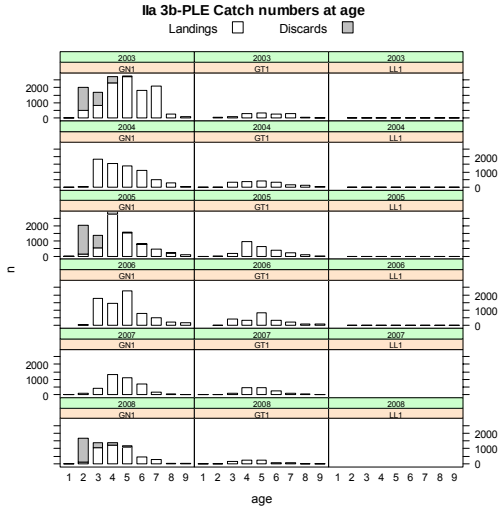


Figure 6.3.2.14. Area 3b (Skagerrak, North Sea & Eastern Channel), PLE landings and discards at age in number by static gears .

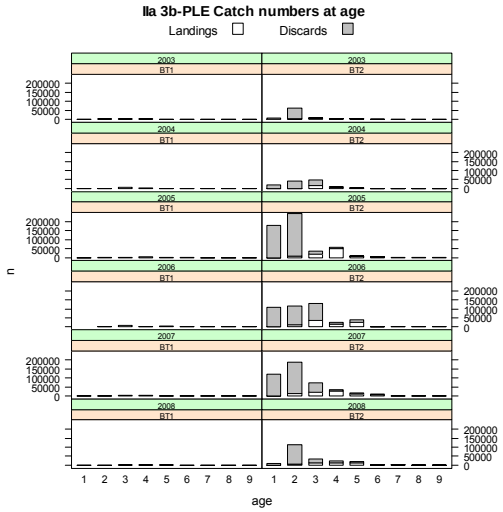


Figure 6.3.2.15. Area 3b (Skagerrak, North Sea & Eastern Channel), PLE landings and discards at age in number by BT gears.

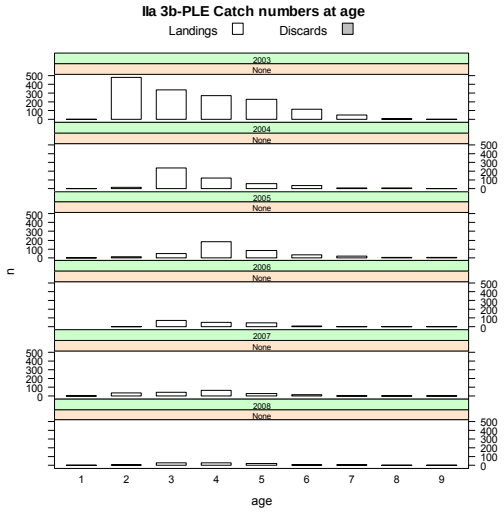


Figure 6.3.2.16. Area 3b (Skagerrak, North Sea & Eastern Channel), PLE landings and discards at age in number by unregulated gears .

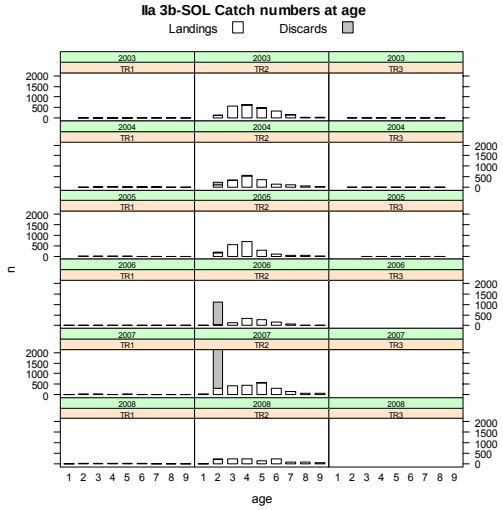


Figure 6.3.2.17. Area 3b (Skagerrak, North Sea & Eastern Channel), SOL landings and discards at age in number by TR gears.

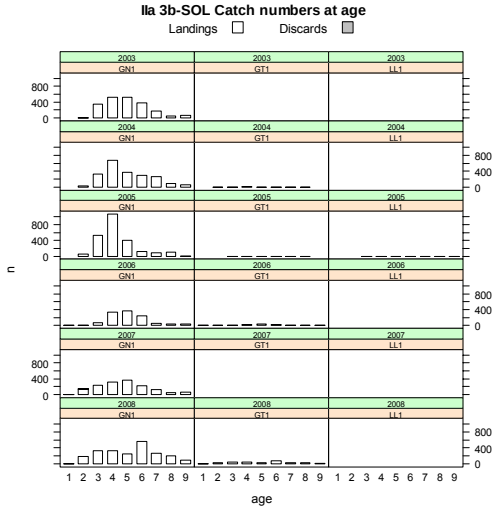


Figure 6.3.2.18. Area 3b (Skagerrak, North Sea & Eastern Channel), SOL landings and discards at age in number by static gears .

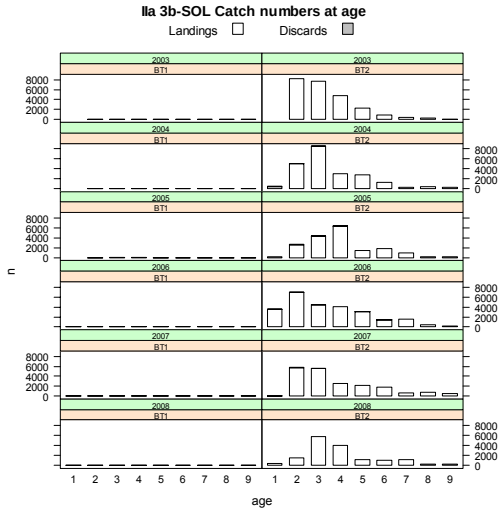


Figure 6.3.2.19. Area 3b (Skagerrak, North Sea & Eastern Channel), SOL landings and discards at age in number by BT gears.

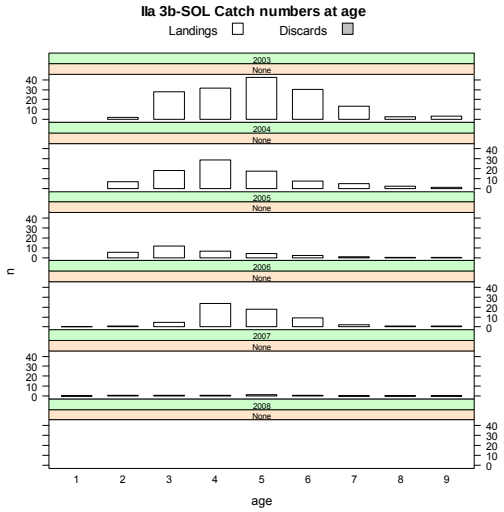


Figure 6.3.2.20. Area 3b (Skagerrak, North Sea & Eastern Channel), SOL landings and discards at age in number by unregulated gears .

6.3.3. Trend in CPUE of cod, sole and plaice by derogation in management area 2b: Skagerrak, North Sea (incl. 2EU), and Eastern Channel

Catch rates of cod, plaice and sole in g/KW-day for cod categories are given in Tables 6.3.3.1-6.3.3.3. In some cases the figures refer only to landings, depending on whether discard data were available. In the context of possible effort management measures, it is useful to summarise the impact of each gear category in terms of the relative quantity removed per unit of effort. Using this approach, the CPUE for a given gear, when compared with the CPUE of another gear for the same period, can be used as a proxy for the relative fishing power of the gear. Therefore, the gear categories are ranked with regards to highest 2008 CPUE for cod, plaice and sole are indicated in the Tables . In addition, CPUE and LPUE by year are plotted for the first four gear categories in terms of 2003-2008 average.

For cod (Table 6.3.3.1), GN1 has usually been the gear with largest catch rate, with a stable CPUE around 1kg/kWday. However, the catch rate for TR1 gear has been regularly increasing over the time period, and was up at the same level than GN1 in 2008. However, it should be remembered that it is problematic to define effort for static gears, hence defining effort in terms of kilowatt-days may not adequately capture fishing activity by gillnetters. The ranking also indicates that longliners and trammel netters are also rather efficient at capturing cod, though again, the caveat about definition of effort for static gears also applies in these cases, and neither gear is used very much in the area.

It should be noted that plaice and sole in the Skagerrak (regulated area 2b1) are considered as part of the same stocks as plaice and sole in the Kattegat (regulated area 2a). Both stocks are considered as being distinct from the North Sea stock, as are plaice and sole in the Eastern Channel (2b3). However, both the Skagerrak and the Eastern English Channel belongs to the Management area of the North Sea. As a result, the CPUE data for these species need to be interpreted with care. The most efficient gear for the capture of plaice (Table 6.3.3.2) is indicated to be large mesh beam trawlers BT1 and BT2, closely followed by the gillnet category GN1. In general however, the differences in mean catch rates between all main different gear types are relatively small. For sole (Table 6.3.3.3), the most efficient gears for the capture of sole have repeatedly been trammel nets, with BT2 and GN1 to a lower extend.

Table 6.3.3.1 North Sea, Skagerrak & Eastern Channel. Cod CPUE (g/(kW*days)) by gear category and year, 2003-2008, sorted in descending order with regards to CPUE 2008

ANNEX	SPECIES	REG AREA	REG GEAR	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008
IIa	COD	3b	TR1	382	448	490	516	709	969
IIa	COD	3b	GN1	786	987	975	882	924	866
IIa	COD	3b	OTTER	24	19	316	24	45	478
IIa	COD	3b	TR2	184	192	205	315	570	317
IIa	COD	3b	BT1	111	224	230	236	195	264
IIa	COD	3b	LL1	527	463	375	452	449	200
IIa	COD	3b	GT1	249	147	151	251	243	197
IIa	COD	3b	BT2	53	61	48	50	44	91
IIa	COD	3b	none	98	100	120	83	18	79
IIa	COD	3b	TR3	10	5	8	9	2	29
IIa	COD	3b	BEAM	3	2	2	1	2	2
IIa	COD	3b	POTS	5	5	6	5	4	2
IIa	COD	3b	PEL_TRAW	0	0	0	0	0	1
IIa	COD	3b	DREDGE	0	0	0	0	1	0
IIa	COD	3b	DEM_SEINE	378	0	86	1161	77	

Table 6.3.3.2 North Sea, Skagerrak & Eastern Channel. Plaice CPUE (g/(kW*days)) by gear category and year, 2003-2008, sorted in descending order with regards to CPUE 2008

ANNEX	SPECIES	REG AREA	REG GEAR	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008
IIa	PLE	3b	BT1	1210	1170	1054	1397	1487	1476
IIa	PLE	3b	BT2	1342	1224	1071	1194	1149	1397
IIa	PLE	3b	GN1	1128	805	848	792	579	684
IIa	PLE	3b	TR1	257	344	318	507	463	619
IIa	PLE	3b	GT1	500	551	644	977	694	352
IIa	PLE	3b	TR2	504	429	379	474	265	310
IIa	PLE	3b	none	201	143	104	80	90	32
IIa	PLE	3b	DREDGE	1	1	5	2	1	2
IIa	PLE	3b	OTTER	25	6	10	5	86	2
IIa	PLE	3b	BEAM	17	6	5	4	3	1
IIa	PLE	3b	PEL_TRAW	1	1	1	0	0	1
IIa	PLE	3b	LL1	2	40	3	7	0	0
IIa	PLE	3b	POTS	0	0	0	0	0	0
IIa	PLE	3b	TR3	9	5	4	9	3	0
IIa	PLE	3b	DEM_SEINE	151		0	2321		

Table 6.3.3.3 North Sea, Skagerrak & Eastern Channel. Sole CPUE (g/(kW*days)) by gear category and year, 2003-2008, sorted in descending order with regards to CPUE 2008

ANNEX	SPECIES	REG AREA	REG GEAR	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008
IIa	SOL	3b	GT1	1060	844	956	1465	1521	1091
IIa	SOL	3b	BT2	324	349	285	266	311	372
IIa	SOL	3b	GN1	206	195	216	192	204	248
IIa	SOL	3b	TR2	24	26	19	139	32	47
IIa	SOL	3b	none	144	141	4	10	3	20
IIa	SOL	3b	BT1	16	13	7	9	9	12
IIa	SOL	3b	TR3	1	0	1	0	0	3
IIa	SOL	3b	OTTER	6	5	6	6	4	2
IIa	SOL	3b	BEAM	5	3	2	1	1	1
IIa	SOL	3b	DREDGE	1	1	6	2	1	1
IIa	SOL	3b	PEL_TRAW	1	1	1	1	0	1
IIa	SOL	3b	TR1	1	1	1	2	1	1
IIa	SOL	3b	LL1	0	0	0	0		0
IIa	SOL	3b	POTS	0	0	0	0	1	0
IIa	SOL	3b	DEM_SEINE	0					

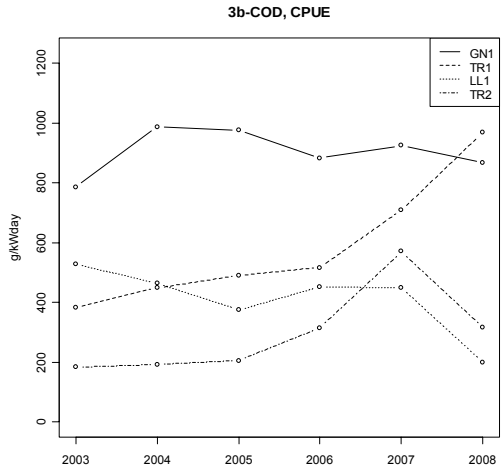


Figure 6.3.3.1. Skagerrak, North Sea & Eastern Channel. COD CPUE trends for the four gears with highest average CPUE.

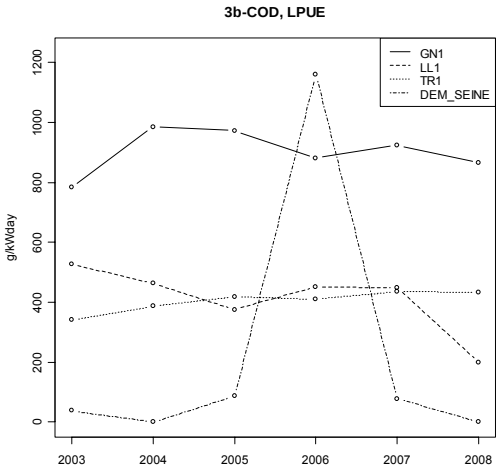


Figure 6.3.3.2. Skagerrak, North Sea & Eastern Channel. COD LPUE trends for the four gears with highest average LPUE..

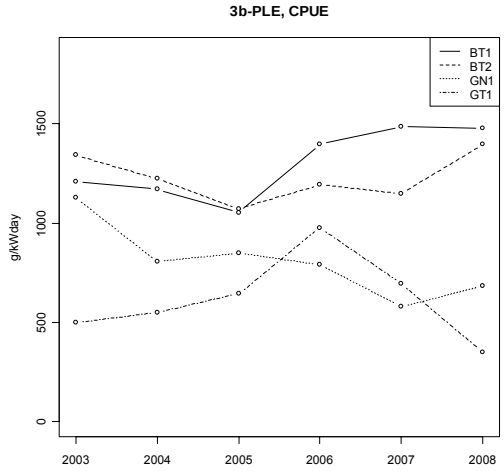


Figure 6.3.3.3. Skagerrak, North Sea & Eastern Channel. PLE CPUE trends for the four gears with highest average CPUE..

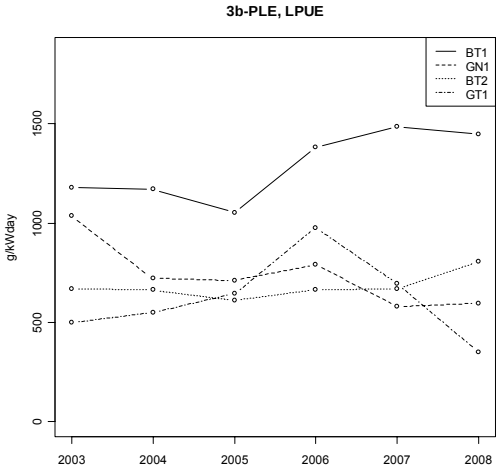


Figure 6.3.3.4. Skagerrak, North Sea & Eastern Channel. PLE LPUE trends for the four gears with highest average LPUE.

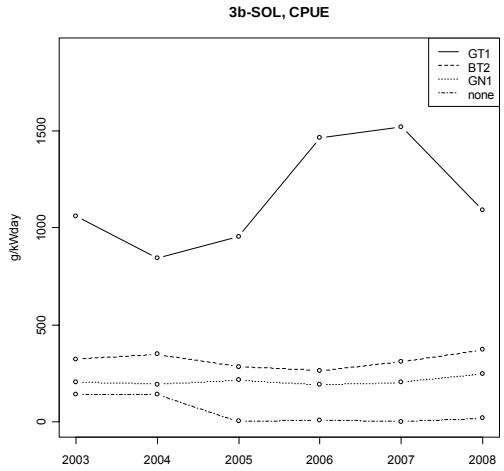


Figure 6.3.3.5. Skagerrak, North Sea & Eastern Channel. SOL CPUE trends for the four gears with highest average CPUE..

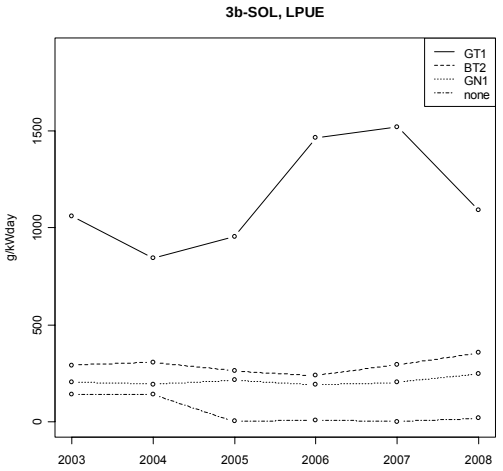


Figure 6.3.3.6. Skagerrak, North Sea & Eastern Channel. SOL LPUE trends for the four gears with highest average LPUE..

6.3.4. Ranked derogations according to cod, sole and plaice catches in management area 2b: Skagerrak, North Sea (incl. 2EU), and Eastern Channel

Gear categories are ranked according to their catch and landings in weight of cod, plaice and sole in Tables 6.3.4.1 and 6.3.4.2 respectively.

For cod, discard data are available for most of the major gear categories. Gear category TR1 (>100 mm mesh size) has constantly represented around half of both landings and catches. The share of TR2 in landings has been stable around 15%, but in terms of total catches this gear has been having the largest impact in 2006 and 2007 due to large discarding of young cod.

For both plaice and sole, beam trawlers using small mesh size (BT2) are much more important than other gear categories in terms of both landings and catches removed, with a share of around 60% for plaice and 80% for sole. It should be noted that plaice and sole in the Skagerrak (regulated area 2b1) are considered as part of the same stocks as plaice and sole in the Kattegat (regulated area 2a). Both stocks are considered as being distinct from the North Sea stock, as are plaice and sole in the Eastern Channel (2b3). As a result, the derogation rankings for these species need to be interpreted with caution.

Table 6.3.4.1 North Sea, Skagerrak & Eastern Channel, Ranked categories according to relative cod, plaice and sole catches in weight in area 2b, 2003-2008. Ranking is according to the year 2008.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
IIa	3b	COD	TR1	0.45	0.42	0.42	0.44	0.43	0.56
IIa	3b	COD	TR2	0.24	0.25	0.22	0.31	0.42	0.2
IIa	3b	COD	OTTER	0.01	0.01	0.09	0.01	0.01	0.09
IIa	3b	COD	BT2	0.12	0.13	0.09	0.08	0.06	0.08
IIa	3b	COD	GN1	0.12	0.14	0.12	0.1	0.06	0.05
IIa	3b	COD	GT1	0.02	0.01	0.01	0.01	0.01	0.01
IIa	3b	COD	BT1	0.02	0.04	0.03	0.04	0.02	0.01
IIa	3b	COD	DREDGE	0	0	0	0	0	0
IIa	3b	COD	LL1	0.01	0	0	0	0	0
IIa	3b	COD	none	0	0	0	0	0	0
IIa	3b	COD	PEL_TRAWL	0	0	0	0	0	0
IIa	3b	COD	POTS	0	0	0	0	0	0
IIa	3b	COD	TR3	0	0	0	0	0	0
IIa	3b	COD	BEAM	0	0	0	0	0	0
IIa	3b	COD	DEM_SEINE	0	0	0	0	0	

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
IIa	3b	PLE	BT2	0.67	0.68	0.68	0.61	0.69	0.64
IIa	3b	PLE	TR1	0.07	0.08	0.09	0.13	0.13	0.19
IIa	3b	PLE	TR2	0.15	0.14	0.13	0.14	0.09	0.1
IIa	3b	PLE	BT1	0.06	0.05	0.05	0.07	0.06	0.04
IIa	3b	PLE	GN1	0.04	0.03	0.03	0.03	0.02	0.02
IIa	3b	PLE	GT1	0.01	0.01	0.01	0.01	0.01	0.01
IIa	3b	PLE	OTTER	0	0	0	0	0.01	0
IIa	3b	PLE	TR3	0	0	0	0	0	0
IIa	3b	PLE	PEL_TRAWL	0	0	0	0	0	0
IIa	3b	PLE	BEAM	0	0	0	0	0	0
IIa	3b	PLE	LL1	0	0	0	0	0	0
IIa	3b	PLE	POTS	0	0	0	0	0	0
IIa	3b	PLE	DREDGE	0	0	0	0	0	0
IIa	3b	PLE	none	0	0	0	0	0	0
IIa	3b	PLE	DEM_SEINE	0		0	0		

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
IIa	3b	SOL	BT2	0.83	0.85	0.82	0.66	0.81	0.77
IIa	3b	SOL	GT1	0.08	0.08	0.1	0.09	0.11	0.11
IIa	3b	SOL	TR2	0.04	0.04	0.03	0.2	0.05	0.07
IIa	3b	SOL	GN1	0.04	0.03	0.04	0.03	0.03	0.04
IIa	3b	SOL	TR3	0	0	0	0	0	0
IIa	3b	SOL	TR1	0	0	0	0	0	0
IIa	3b	SOL	POTS	0	0	0	0	0	0
IIa	3b	SOL	PEL_TRAWL	0	0	0	0	0	0
IIa	3b	SOL	OTTER	0	0	0	0	0	0
IIa	3b	SOL	LL1	0	0	0	0		0
IIa	3b	SOL	DREDGE	0	0	0	0	0	0
IIa	3b	SOL	BT1	0	0	0	0	0	0
IIa	3b	SOL	BEAM	0	0	0	0	0	0
IIa	3b	SOL	none	0	0	0	0	0	0
IIa	3b	SOL	DEM_SEINE	0					

Table 6.5.2.2 Ranked categories according to relative cod, plaice and sole landings in weight in area 2b, 2003-2008. Ranking is according to the year 2008.

REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
3b	COD	TR1	0.47	0.46	0.5	0.52	0.54	0.55
3b	COD	TR2	0.18	0.17	0.15	0.14	0.16	0.14
3b	COD	BT2	0.14	0.11	0.1	0.1	0.11	0.13
3b	COD	GN1	0.14	0.18	0.16	0.15	0.12	0.12
3b	COD	GT1	0.02	0.01	0.01	0.02	0.02	0.02
3b	COD	BT1	0.03	0.05	0.05	0.05	0.03	0.02
3b	COD	OTTER	0.01	0.01	0.01	0.01	0.01	0.01
3b	COD	DREDGE	0	0	0	0	0	0
3b	COD	LL1	0.01	0.01	0	0.01	0.01	0
3b	COD	none	0	0	0	0	0	0
3b	COD	PEL_TRAWL	0	0	0	0	0	0
3b	COD	POTS	0	0	0	0	0	0
3b	COD	TR3	0	0	0	0	0	0
3b	COD	BEAM	0	0	0	0	0	0
3b	COD	DEM_SEINE	0	0	0	0	0	

REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
3b	PLE	BT2	0.59	0.6	0.62	0.56	0.61	0.56
3b	PLE	TR1	0.09	0.11	0.13	0.18	0.17	0.26
3b	PLE	TR2	0.13	0.13	0.09	0.08	0.08	0.08
3b	PLE	BT1	0.1	0.09	0.08	0.12	0.09	0.05
3b	PLE	GN1	0.06	0.04	0.04	0.05	0.03	0.03
3b	PLE	GT1	0.01	0.02	0.02	0.02	0.02	0.01
3b	PLE	OTTER	0.01	0	0	0	0	0
3b	PLE	TR3	0	0	0	0	0	0
3b	PLE	PEL_TRAWL	0	0	0	0	0	0
3b	PLE	BEAM	0	0	0	0	0	0
3b	PLE	LL1	0	0	0	0	0	0
3b	PLE	POTS	0	0	0	0	0	0
3b	PLE	DREDGE	0	0	0	0	0	0
3b	PLE	none	0	0	0	0	0	0
3b	PLE	DEM_SEINE	0		0	0		

REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel
3b	SOL	BT2	0.82	0.83	0.81	0.78	0.81	0.79
3b	SOL	GT1	0.09	0.08	0.11	0.12	0.11	0.12
3b	SOL	TR2	0.04	0.03	0.03	0.04	0.04	0.05
3b	SOL	GN1	0.04	0.03	0.04	0.04	0.03	0.04
3b	SOL	TR3	0	0	0	0	0	0
3b	SOL	TR1	0	0	0	0	0	0
3b	SOL	POTS	0	0	0	0	0	0
3b	SOL	PEL_TRAWL	0	0	0	0	0	0
3b	SOL	OTTER	0	0	0	0	0	0
3b	SOL	LL1	0	0	0	0		0
3b	SOL	DREDGE	0	0	0	0	0	0
3b	SOL	BT1	0	0	0	0	0	0
3b	SOL	BEAM	0	0	0	0	0	0
3b	SOL	none	0	0	0	0	0	0
3b	SOL	DEM_SEINE	0					

6.3.5. Unregulated gear in management area 2b: Skagerrak, North Sea (incl. 2EU), Eastern Channel

Category 'none none' represents unregulated gear types and mesh sizes in addition to unidentified mesh sizes. This section provides a break down of the main gears within this category in effort (kW*Days at sea), cod catches, plaice catches and sole catches.

The unregulated gears account for a very insignificant part of the total landings of cod, plaice and sole, often less than 1%.

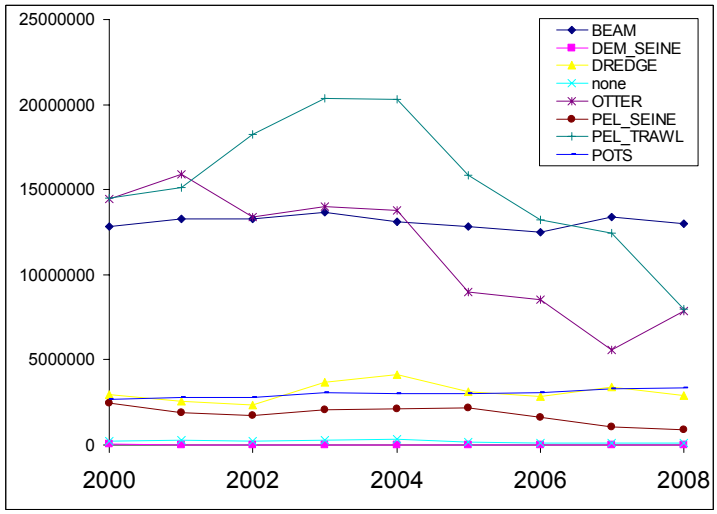


Figure 6.3.5.1 Skagerrak, North Sea and East Channel: Effort trends (kW*days) for unregulated gears.

Table 6.3.5.1 Skagerrak, North Sea and East Channel: Effort trends for unregulated gears.

		Data								
REG GEA	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
BEAM	BEL	390167	463956	335323	392355	317176	329935	324818	350068	356385
	DEN	546169	777014	718411	822529	734857	666430	583899	810945	845435
	ENG	573522	638425	659184	616804	376869	372475	196837	366833	358009
	FRA	16238	2243	1882	14428	33671	16563	11834	8656	8671
	GER	6307123	6180615	6214085	6426101	6212126	6201722	6162892	6435155	6211260
	NED	5013587	5197903	5309688	5384651	5392813	5236236	5227769	5424683	5215828
	SCO	9065	5770	16333	1200	31950	8952	8987	6110	884
BEAM Total		12855871	13265926	13254906	13658068	13099462	12832313	12517036	13402450	12996472
DEM_SEI	DEN	14381	1044	3493	4021			71		
	ENG			102		448	358			
	GER							436		
	NED		4944	208	1323				1835	2708
	SCO	13955	12707	9470	17167	9270	22780	1710	11182	2138
	SWE	336		112				368		368
DEM_SEINE Total		28672	18695	13385	22511	9718	23138	2585	13017	5214
DREDGE	BEL								1882	14902
	DEN	688900	757711	692855	727008	687907	541523	387604	425884	349859
	ENG	566756	457332	479025	601042	473965	523965	449353	569827	572143
	FRA	6478		8193	32509	72610	89295	17255	12321	16477
	GBJ		212	1484						
	GER	282284	93706	110614	387677	328048	160077	9429	183894	43773
	IOM		1323				11297	32920	44610	37483
	IRL				139925	208062	51300			
	NED	20957	17800	24724	300672	167774	127961	244658	244635	286526
	NIR						259			
	SCO	1405892	1256683	1046166	1499738	2174726	1607320	1679565	1893820	1569186
DREDGE Total		2971267	2584767	2363061	3688571	4113092	3112997	2820784	3376873	2890349
none	BEL									61
	DEN	203309	256863	216907	147894	92633	115680	97546	59320	29307
	ENG	85	585		975					246
	FRA	1518	8244	448	94710	201850	1008	6108	2723	28003
	SCO	27421	16097	16558	14027	23169	30090	28508	37605	44722
none Total		232333	281789	233913	257606	317652	146778	132162	99648	102339
OTTER	BEL	988347	860644	650418	549116					
	DEN	9878952	11370304	9311914	9579704	9367768	5710481	5632553	3522633	5471618
	ENG	20280	31753	24195	21751	71009	205188	234755	25843	53290
	FRA	34428	5347	21793	202402	401238	296089	112869	68664	36090
	GER				109150	78875	10782	48072	14680	44061
	IRL	27000	39080	10500	5344		32520			10070
	NED	276451	136004	85872	134414	17329	8749	221	11187	
	NIR			660				272	6494	1472
	SCO	583743	369022	434262	545510	765990	570700	284732	317093	377965
	SWE	2667993	3066266	2826512	2832417	3088476	2170140	2208858	1587401	1860216
OTTER Total		14477194	15878420	13366126	13979808	13790685	9004649	8522332	5553995	7854782
PEL_SEIN	DEN	1431093	1245961	1358662	1717558	1815451	1759566	1219765	816511	761167
	NED		13584	9960	19679	9200	14055	13523	8992	11587
	NIR	59330	220796	123386	181832	188326	129880	159103	126633	
	SCO	551711	154725	20765				3036		
	SWE	394458	269620	204633	161121	121333	249080	200832	119760	143380
PEL_SEINE Total		2436592	1904686	1717406	2080190	2134310	2152581	1596259	1071896	916134
PEL_TRA	DEN	2477371	2937597	3491075	3653004	3999537	2657241	2805246	2327983	1329751
	ENG	819083	1302099	1418413	1478725	1562010	1631712	1240943	1566161	1092572
	FRA	69466	124295	236056	244811	79687	79855	79256	45285	54517
	GER	1298721	1355503	1361294	1735237	1667716	1735139	1397555	654151	680308
	IRL	235092	285356	475429	539331	580137	403494	206147	375374	361835
	NED	5384948	5482266	5871965	7209775	7265714	6025778	5000291	4946137	2923426
	NIR	57167	6647	125566	152113	102623	50103	57356	83469	38030
	SCO	3586090	3101720	4174590	4473776	4485611	2596357	2021581	1999286	1264913
	SWE	599800	537052	1065594	881536	585129	682213	442878	445536	255416
PEL_TRAWL Total		14527738	15132535	18219982	20368308	20328164	15861892	13251253	12443382	8000768
POTS	DEN	883			2877	6978	4120	891	26644	17791
	ENG	1402317	1483808	1482278	1777397	1622481	1674995	1561894	1716877	1532823
	FRA	10911	9072	2682	2489		4411	1235	3116	
	GBG	39233	36568	27747	38013	38467	33150	63737	16061	59251
	GBJ	108399	113180	49931	67837	82496	76607	67282	39276	10742
	GER							3234		
	IRL						25334	148673	203334	172342
	NED		5326	4562	2822	876	9569	624	3616	4030
	NIR	1407								
	SCO	957168	937277	974594	948919	967366	885668	856992	846759	999028
	SWE	162588	199789	234714	241592	291545	322315	365875	416564	539147
POTS Total		2682906	2785020	2776508	3081946	3010209	3036169	3070437	3272247	3335154
Grand Total		50212573	51851838	51945287	57137008	56803292	46170517	41912848	39233508	36101212

Table 6.3.5.2 Skagerrak, North Sea and East Channel: COD catches for unregulated gears

REG_AREA	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
3b	BEAM	39	0	24	0	20	0	14	0	24	0	32	0
	DEM_SEINE	1	9	0	0	2	0	3	0	1	0		
	DREDGE	0	0	1	0	0	0	1	0	4	0	1	0
	none	34	0	40	0	30	0	24	0	13	0	45	0
	OTTER	351	0	276	0	289	2674	214	0	118	147	142	3805
	PEL_TRAWL	9	0	1	0	0	0	4	0	3	0	4	0
	POTS	14	0	16	0	17	0	15	0	11	0	7	0
3b Total		448	9	359	0	359	2674	275	0	173	147	230	3805

Table 6.3.5.3 Skagerrak, North Sea and East Channel, SOL catches for unregulated gears:

REG_AREA	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
3b	BEAM	66	0	38	0	22	0	13	0	18	0	17	0
	DEM_SEINE	0	0										
	DREDGE	3	0	3	0	19	0	5	0	4	0	4	0
	none	50	0	58	0	1	0	2	0	2	0	11	0
	OTTER	96	0	73	0	60	0	55	0	23	0	19	0
	PEL_TRAWL	23	0	15	0	10	0	12	0	2	0	8	0
	POTS	0	0	0	0	0	0	0	0	2	0	0	0
3b Total		239	0	188	0	111	0	88	0	51	0	59	0

Table 6.3.5.4 Skagerrak, North Sea and East Channel: PLE catches for unregulated gears

REG_AREA	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
3b	BEAM	233	0	75	0	64	0	45	0	38	0	12	0
	DEM_SEINE	5	0			0	0	6	0				
	DREDGE	5	0	4	0	17	0	7	0	3	0	7	0
	none	70	0	60	0	27	0	23	0	63	0	18	0
	OTTER	365	0	86	0	71	21	43	0	27	483	15	0
	PEL_TRAWL	14	0	12	0	10	0	4	0	1	0	8	0
	POTS	0	0	0	0	1	0	1	0	1	0	0	0
3b Total		693	0	237	0	189	21	128	0	132	483	60	0

6.3.6. Vessels <10m in management area 2b: Skaggerak, North Sea and Eastern Channel

Table 6.3.6.1 provides landings data for the vessels under 10m in area 2b, including data from Denmark, England, France, Scotland and Sweden, for the main species caught. Landings for cod, Nephrops and plaice range to up to 2000 tonnes per year, and up to 1000 tonnes for sole, but are less important for the other species.

For the whole area 2b, this represents around 7-8% of the total landings of cod, 4-6% of the total landings of sole, and 2% for the total landings of plaice.

Table 6.3.6.1. Landings of vessels under 10m in area 2b.

SPECIES	GEAR	2002	2003	2004	2005	2006	2007	2008
ANF	BEAM				0.1	0.1	0.5	0.2
	DREDGE		0.0	0.2	0.0	0.0	0.2	0.0
	GILL		0.6	1.4	5.6	1.9	0.7	2.4
	LONGLINE		0.0	0.0	0.2	0.3	0.1	0.0
	none		5.9	12.6	6.0	4.5	4.0	8.6
	OTTER		2.3	4.9	3.9	13.3	16.9	11.8
	POTS		0.0			0.0	0.0	0.1
	TRAMMEL		0.3	0.2	0.1	0.1	0.0	0.0
ANF Total			9.1	19.4	15.9	20.2	22.3	23.1
COD	BEAM		0.1	0.4	0.0	0.0	0.3	0.0
	DEM_SEINE			0.2			0.0	
	DREDGE		1.0	0.0	0.0	0.0	0.6	0.2
	GILL	30.0	411.3	374.8	638.1	864.0	571.9	658.4
	LONGLINE	0.4	307.0	179.6	108.2	120.6	172.2	261.6
	none		864.5	1190.2	934.2	600.8	410.7	398.4
	OTTER	3.5	37.3	42.5	80.6	151.3	163.6	152.6
	PEL_SEINE					0.6		
	PEL_TRAW	0.1	0.0		0.5	0.2	0.0	0.0
	POTS	0.6	17.5	16.2	11.4	11.3	8.0	17.8
	SMALL_BEAM			0.2	0.0		0.1	0.1
	TRAMMEL	31.1	96.5	52.5	66.4	66.9	61.8	66.4
COD Total		65.8	1735.4	1856.6	1839.4	1815.8	1389.0	1555.5
HAD	BEAM			1.4				0.0
	DREDGE			3.5				0.0
	GILL		28.3	6.0	2.7	3.2	0.4	1.4
	LONGLINE		1.2	0.4	0.4	0.5	0.3	0.1
	none		60.6	10.1	1.3	1.0	0.5	0.9
	OTTER		30.0	70.4	24.1	49.8	240.9	149.9
	POTS			0.1	0.0	0.2	0.0	0.1
	TRAMMEL		0.0	0.0	0.0	0.0	0.0	0.2
HAD Total			120.1	92.0	28.4	54.6	242.2	152.6
NEP	BEAM							0.0
	DREDGE		0.4	0.3	0.1	0.0	0.5	0.4
	GILL		0.0	0.0	0.0	0.2	0.1	1.7
	LONGLINE			1.2	0.3	0.1	0.2	0.1
	none		0.3	1.8	0.9	0.4	0.4	0.3
	OTTER		679.5	934.2	1383.3	2007.1	1792.8	1258.6
	PEL_SEINE				0.1			
	POTS		101.7	135.5	142.3	140.6	153.5	190.0
NEP Total			781.9	1072.8	1526.9	2148.3	1947.5	1451.1

Table 6.3.6.1. (Continued)

SPECIES	GEAR	2002	2003	2004	2005	2006	2007	2008
PLE	BEAM		2.3	3.0	12.1	11.6	13.9	4.9
	DEM_SEINE							0.0
	DREDGE	1.1	0.4	4.6	15.4	21.8	14.5	15.8
	GILL	21.3	317.5	242.4	298.5	394.1	326.8	367.1
	LONGLINE	0.1	0.6	1.5	2.6	1.5	1.3	0.5
	none		708.9	638.0	598.3	582.2	396.2	499.2
	OTTER	47.8	247.0	279.5	208.2	453.9	343.2	345.1
	PEL_SEINE					0.0	0.1	
	PEL_TRAW	0.0	0.7		0.7	0.1	0.5	1.2
	POTS	0.3	2.7	0.4	0.2	0.6	2.0	4.4
	SMALL_BE	49.8	57.2	56.4	53.9	26.9	27.3	30.8
	TRAMMEL	119.2	153.2	117.3	123.4	136.1	114.9	65.4
PLE Total		239.6	1490.5	1343.0	1313.3	1628.8	1240.4	1334.3
POK	GILL		6.5	7.5	11.7	28.3	10.4	8.0
	LONGLINE		20.3	14.5	2.9	5.8	6.3	15.5
	none		31.1	26.1	12.1	20.5	2.7	2.2
	OTTER		0.2	0.1	0.2	2.7	1.7	0.7
	POTS		1.2	3.8	6.7	7.3	3.6	3.1
	TRAMMEL		0.4	0.3	0.6	1.0	0.7	0.0
POK Total			59.7	52.3	34.3	65.6	25.4	29.5
SOL	BEAM		7.1	7.7	11.8	7.3	23.2	8.2
	DEM_SEINE		0.0					
	DREDGE	1.3	0.5	0.1	8.6	16.8	13.4	11.8
	GILL	19.0	298.5	328.0	246.3	397.5	571.2	444.0
	LONGLINE	1.4	2.4	2.0	2.2	1.2	0.4	3.0
	N/A		0.0		0.0			
	none		69.6	72.6	56.3	34.4	38.3	49.9
	OTTER	46.4	205.3	236.4	168.7	280.9	329.7	336.0
	PEL_SEINE					0.0	0.0	
	PEL_TRAWL		0.2		0.2		0.1	0.0
	POTS	0.4	12.2	0.4	1.2	0.4	2.2	13.9
	SMALL_BE	44.6	48.6	48.3	34.8	14.5	21.0	33.9
	TRAMMEL	172.8	347.2	291.1	268.1	194.6	119.4	143.0
SOL Total		285.9	991.5	986.7	798.1	947.7	1119.0	1043.9
WHG	BEAM		0.1	0.4	0.1	0.0	0.0	0.0
	DREDGE			0.1	0.0		0.3	0.1
	GILL	9.1	39.5	49.8	36.3	36.4	10.2	14.0
	LONGLINE	0.0	1.7	3.5	2.2	1.4	3.3	3.5
	none		0.2	0.1	0.1	0.0	0.0	0.0
	OTTER	5.9	51.0	118.9	239.1	650.2	653.7	260.5
	PEL_TRAW	0.1	1.8		0.2		0.1	0.6
	POTS	0.2		0.1	1.2	2.0	0.5	1.8
	SMALL_BEAM		0.1	0.3	0.0	0.3	0.3	0.4
	TRAMMEL	1.7	8.5	6.0	6.3	3.3	1.4	2.5
WHG Total		17.0	102.8	179.1	285.4	693.6	669.8	283.5

6.3.7. Spatial Distribution of Effective Effort in management area 2b:North Sea, Skagerrak & Eastern Channel

Figures 6.3.7.1-6.3.7.8 show spatial distribution of effort for the eight cod plan gear categories. Otter trawls with 100+mm mesh (TR1, Figure 6.3.7.1) are the main roundfish gear and are mainly used in most of the North Sea. There has been a decrease of the effort in the Southern North Sea over years.

Otter trawls with 70-99 mm mesh size (TR2, Figure 6.3.7.2) are the main Nephrops gears. They are now mostly used on the places of the largest Nephrops Functional Units along the Scottish and English coast as well s in the Skagerrak and the English Channel, while the effort in the Central North Sea and along the Norwegian waters has decreased. This category was previously dealt in two groups, below 90 mm mostly spread on the Western and Southwestern North Sea, and above 90mm mainly used in Skagerrak. But the grouping of these two distinct categories in one single does not allow to observe clear spatial trends.

Static gears have traditionally been localised closer to the shores, often in patchy fishing grounds. There are some indications that fishing grounds for these gears have contracted in recent years.

TR1

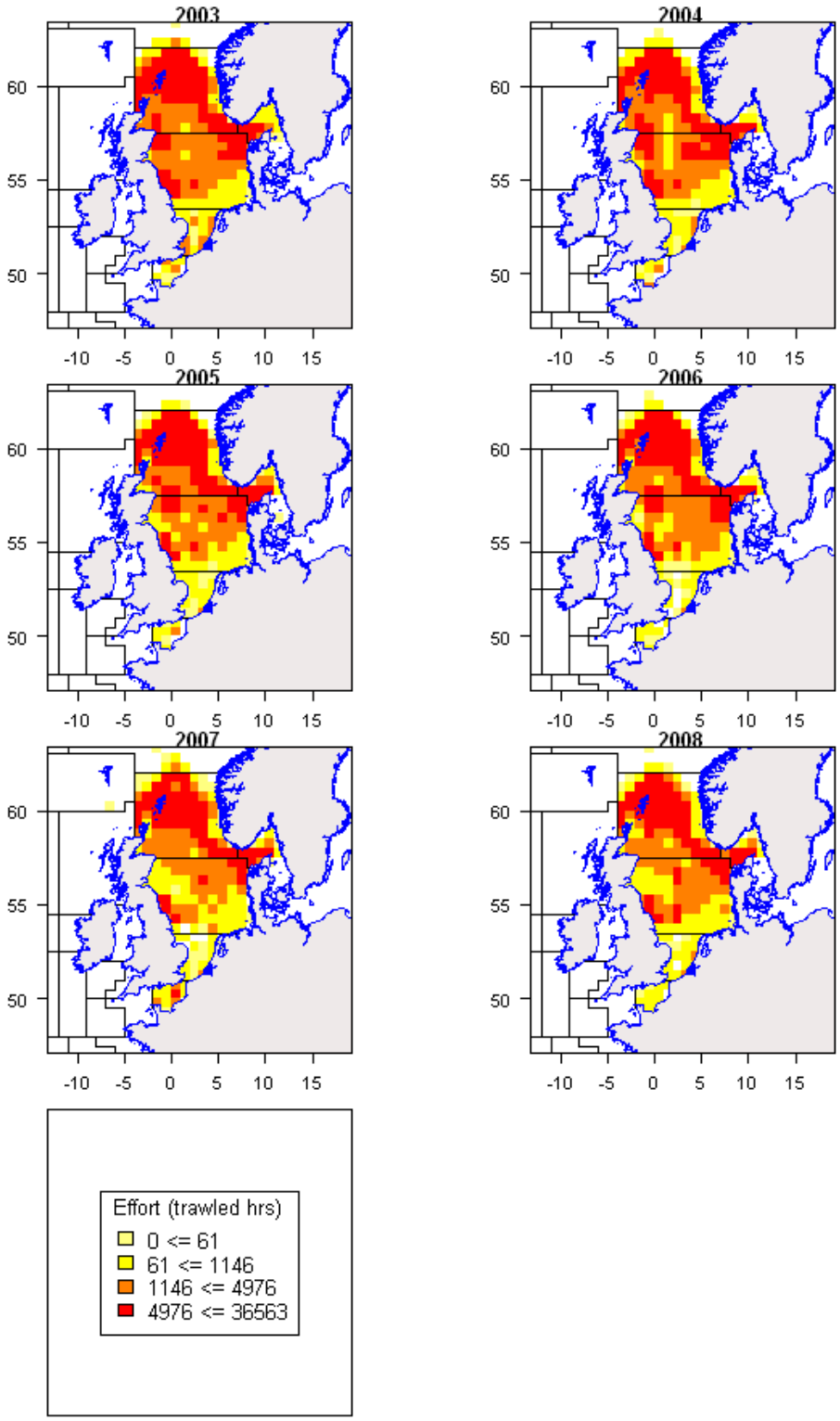


Figure 6.3.7.1. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear TR1, 2003-2008.

TR2

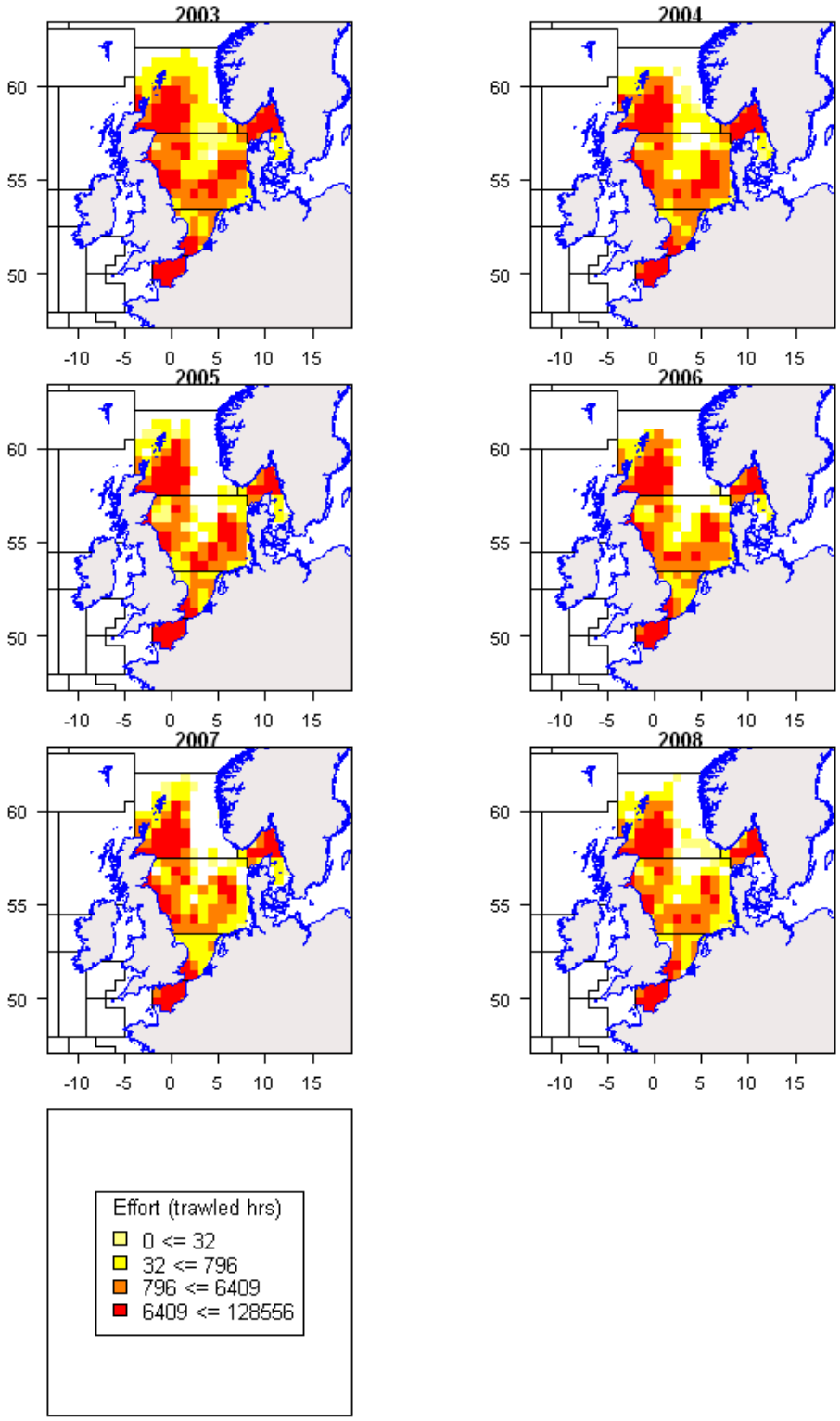


Figure 6.3.7.2. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear TR2, 2003-2008.

TR3

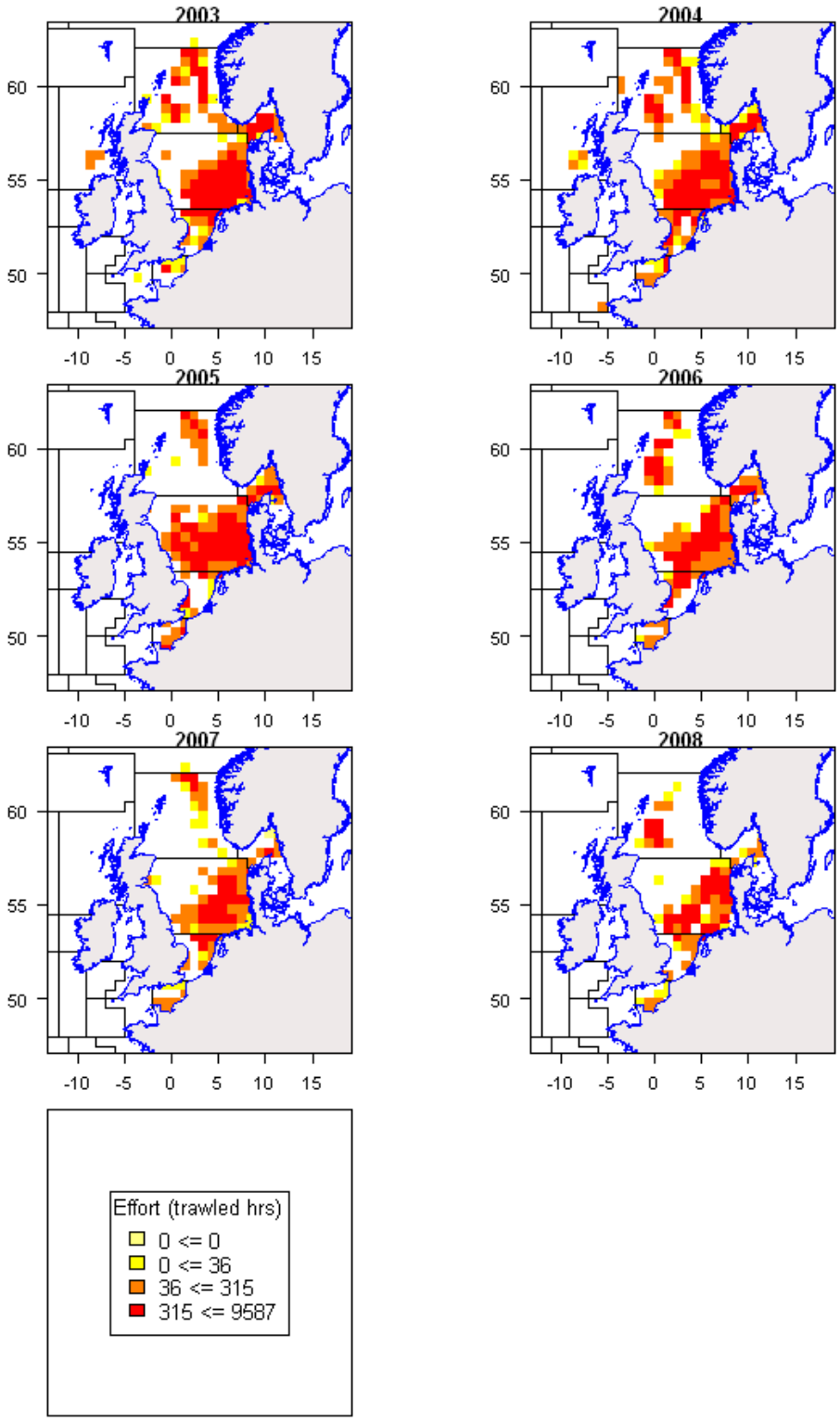


Figure 6.3.7.3. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear TR3, 2003-2008.

BT1

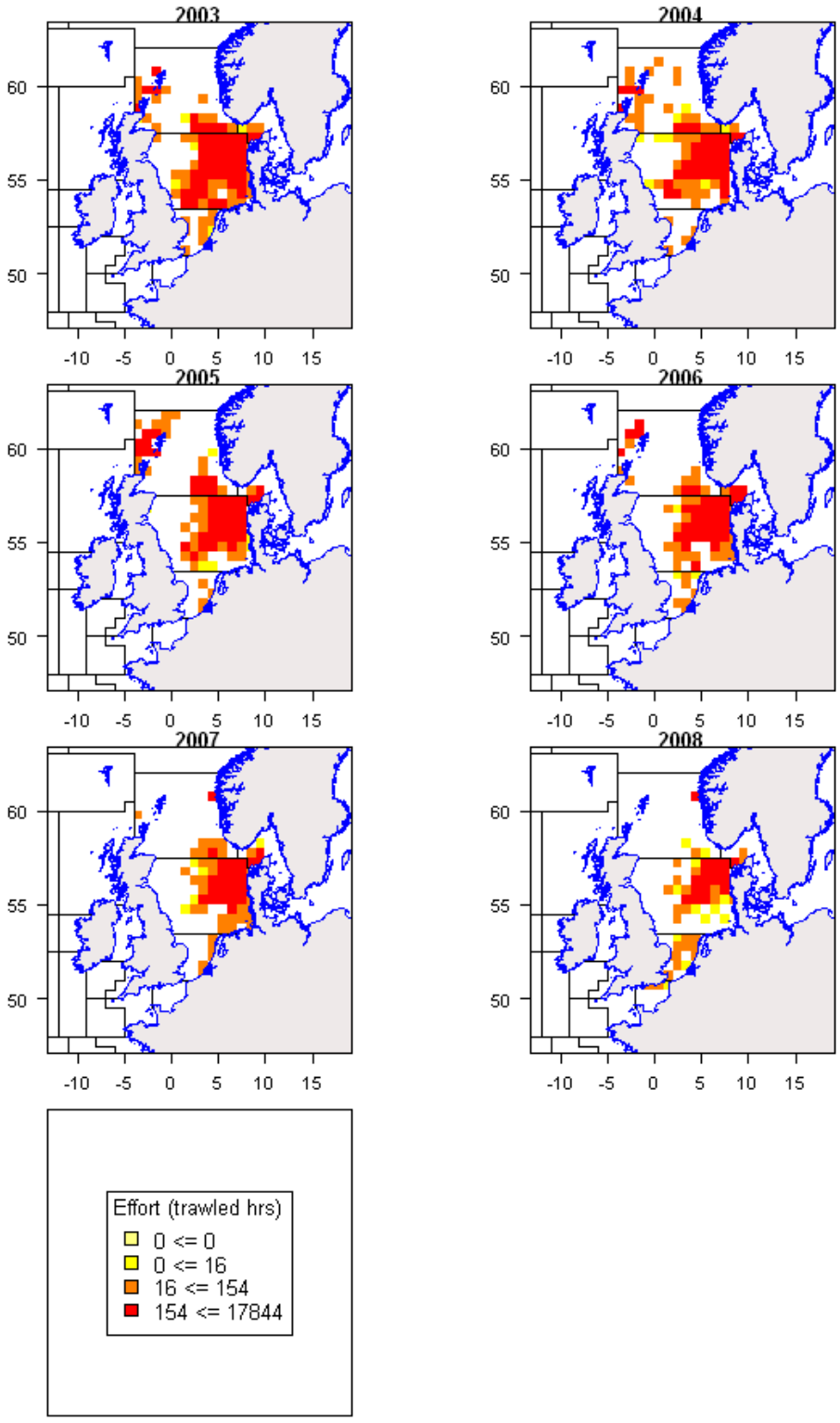


Figure 6.3.7.4. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear BT1, 2003-2008.

BT2

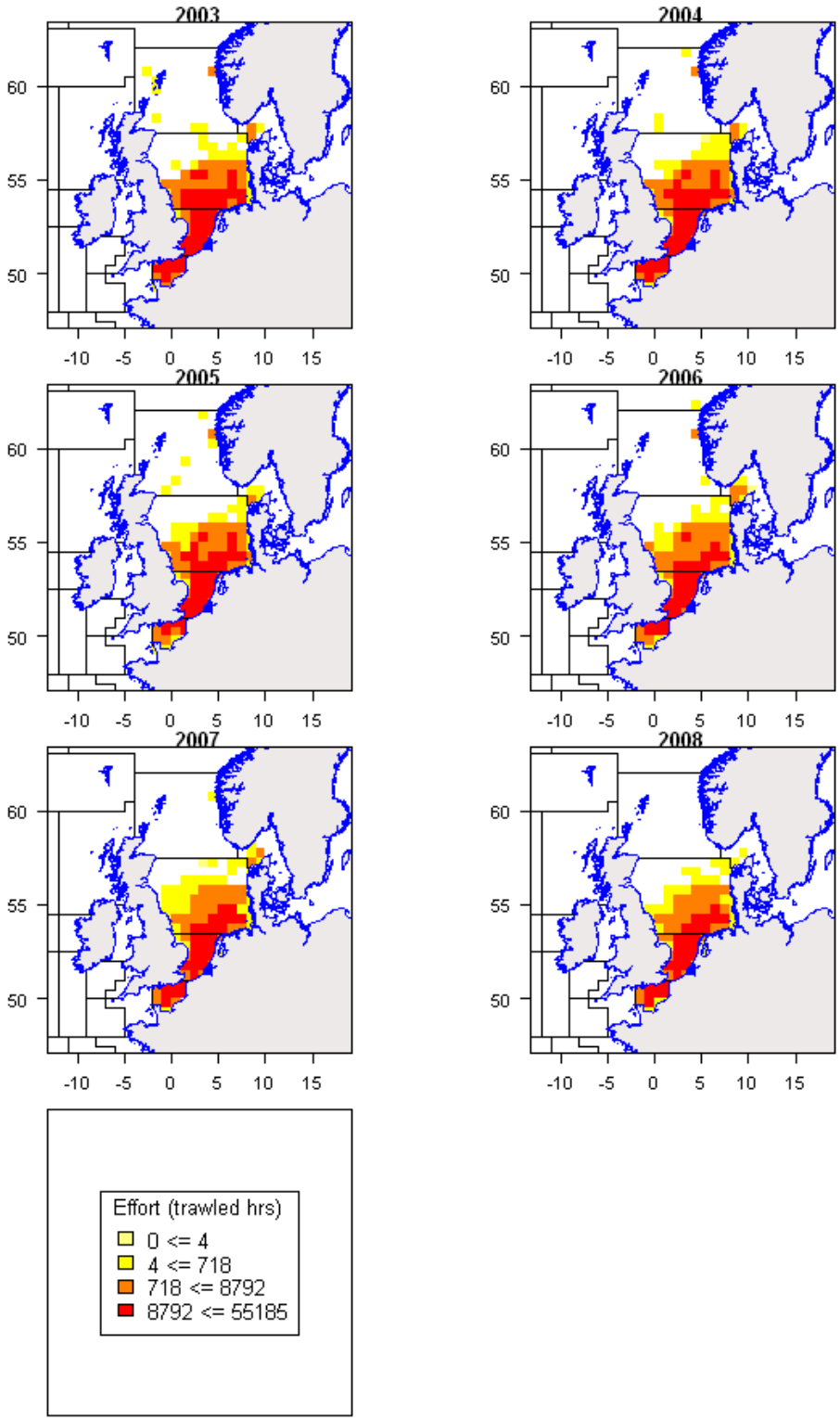


Figure 6.3.7.5. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear BT2, 2003-2008.

GN1

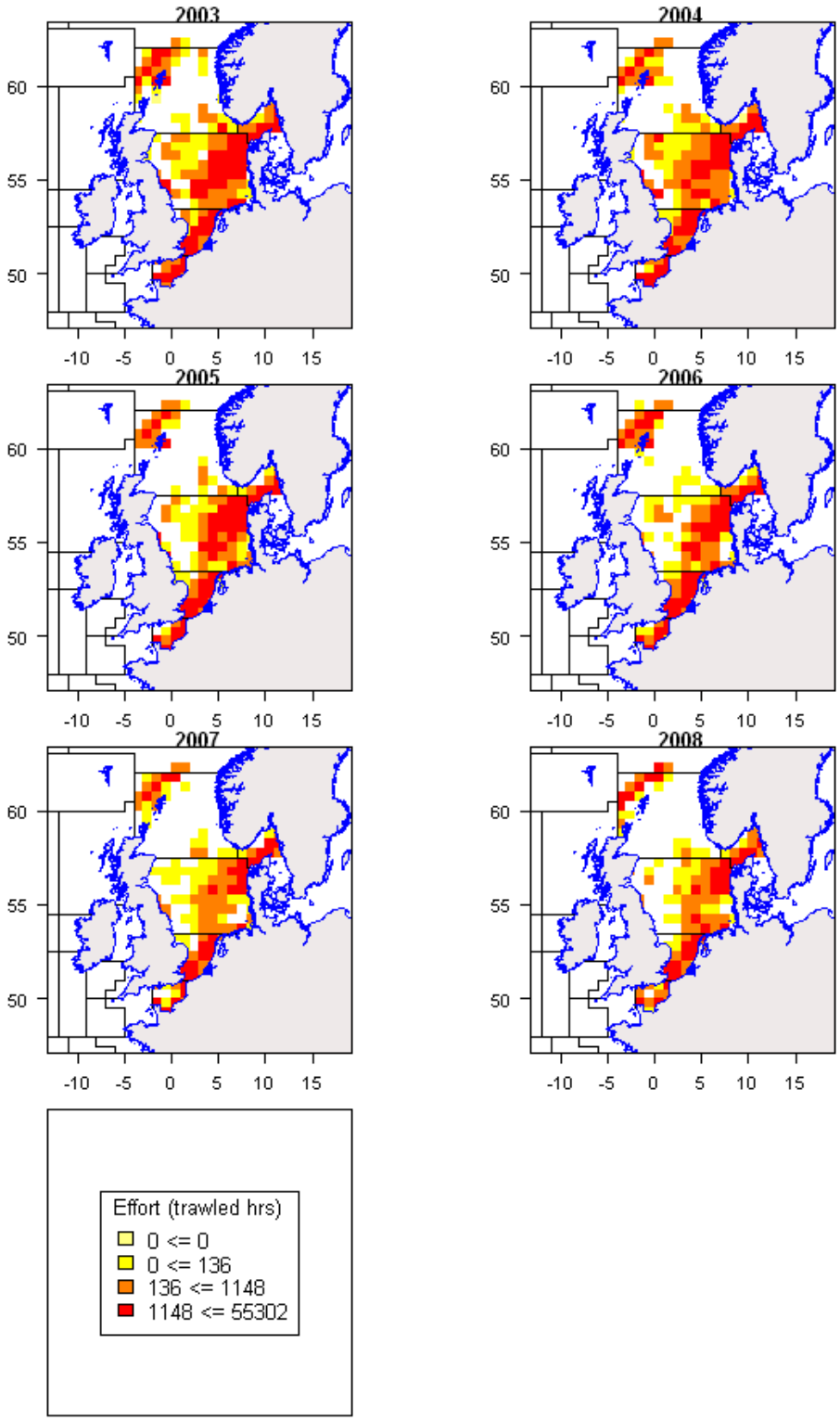


Figure 6.3.7.6. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear GN1, 2003-2008.

GT1

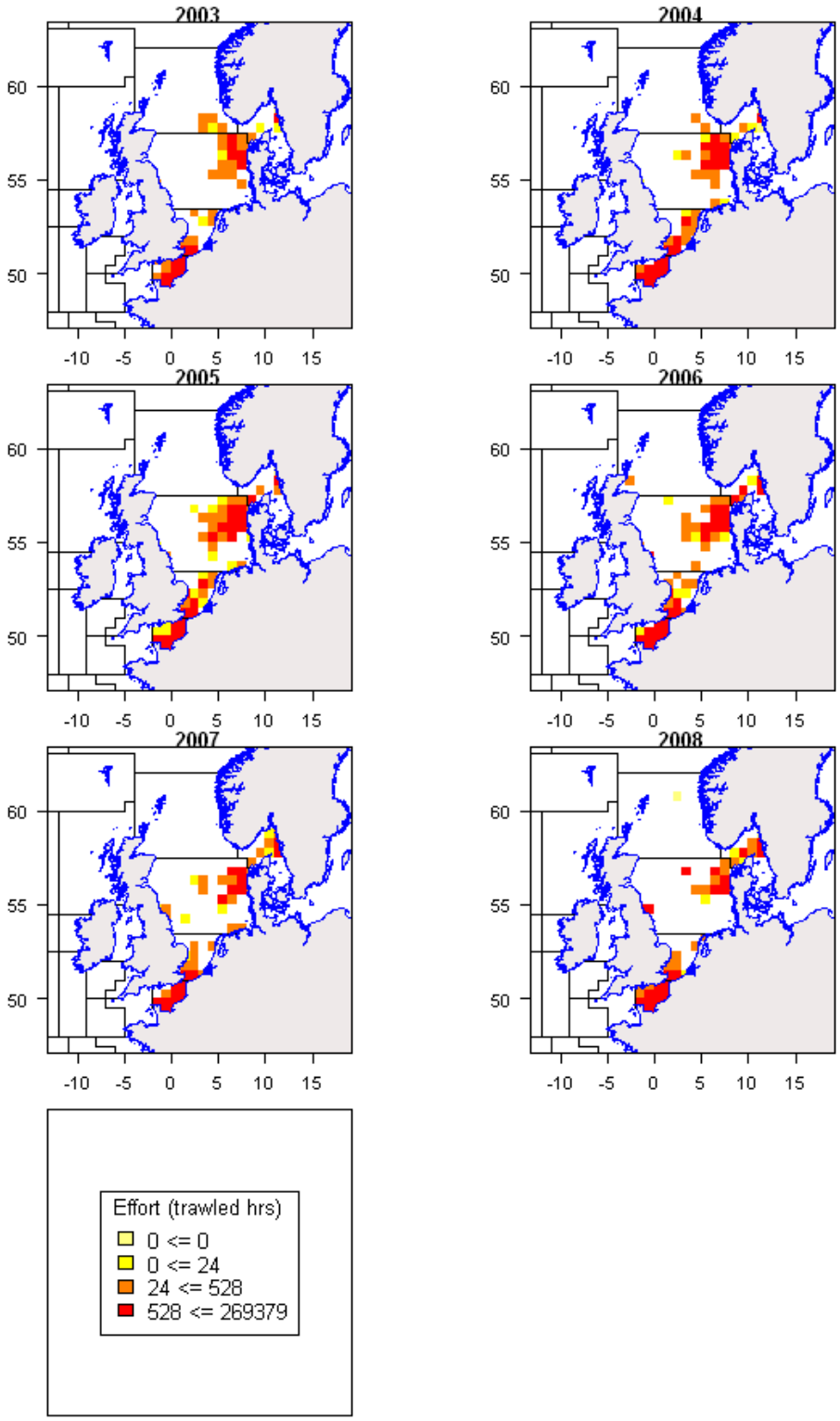


Figure 6.3.7.7. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear GT1, 2003-2008.

LL1

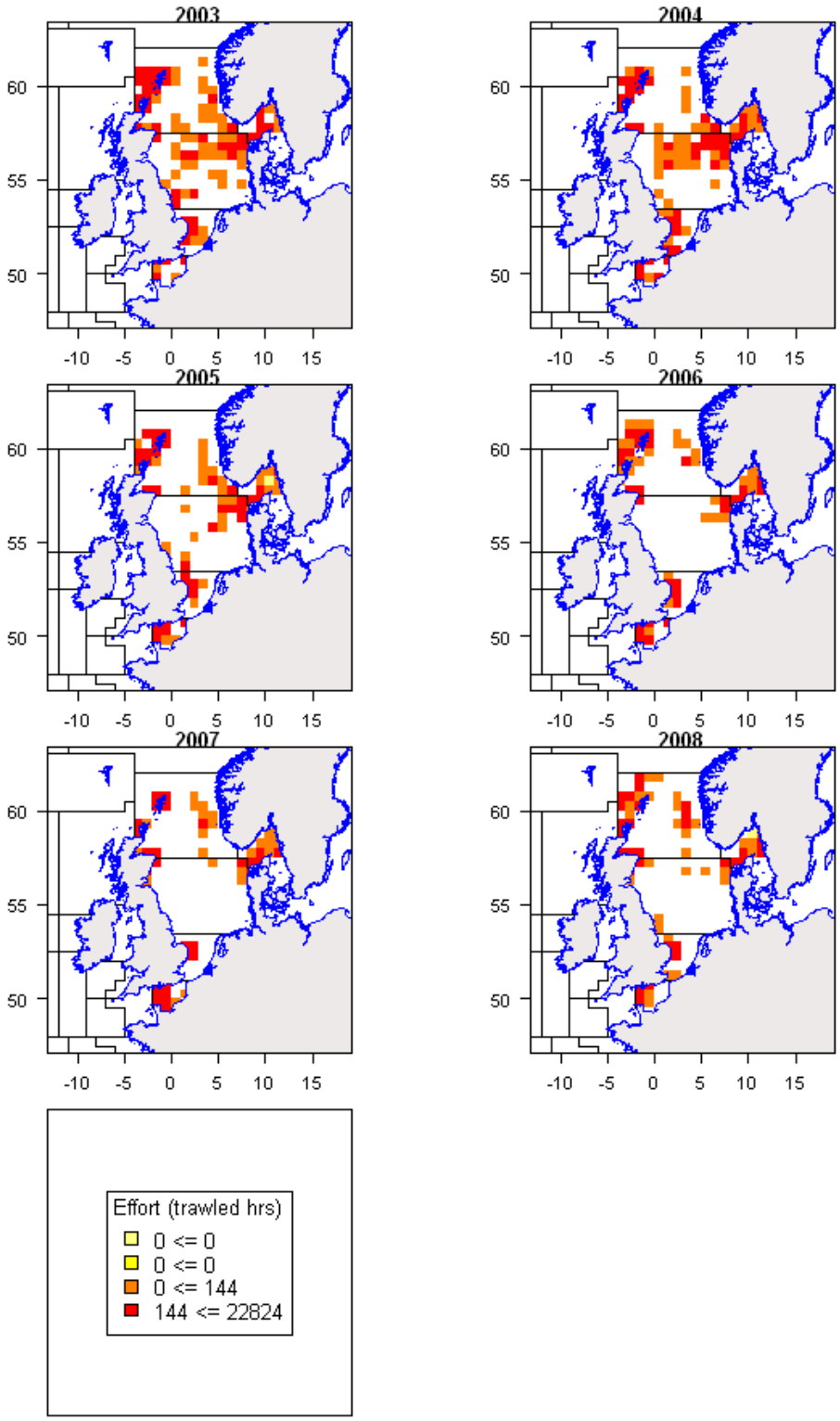


Figure 6.3.7.8. Area 2b, North Sea, Skagerrak and English Channel. Spatial distribution of fishing effort for regulated gear LL1, 2003-2008.

6.3.8. Overview of the specific trends in the English Channel

This year, a specific request was addressed to STECF SGMOS in these terms : “Concerning effort in kW-days and gear grouping (also per Member State), catches and cpue/lpue in the **Eastern Channel** (division VIId): Describe the development of these parameters in 2008 compared to previous years, overall and per Member State, and compare these developments to developments observed in the rest of the area (Skagerrak and North Sea), in particular: Can effort displacement from the North Sea towards the Eastern Channel be identified in certain gears?”

Effort development by area can be inspected out of the spatial plots presented in the previous section. From these plots, there is no obvious sign that there has been an effort shift from the North Sea to the English Channel for any regulated gear.

The Table 6.3.8.1 provides the percentage of combined North Sea + Eastern English Channel effort spent specifically in the English Channel, for the relevant country and gear categories. There has been some increase of the relative effort share in the English Channel for some segments, such as Belgium Beam trawlers BT2 and the Scottish Dredgers, whereas some other segments have proportionally decreased their effort share. For the total effort, the relative share of English Channel effort has slowly and regularly increased from 7% in 2000 to 13% in 2008.

Table 6.3.8.1. percentage of combined North Sea + Eastern English Channel effort spent specifically in the English Channel, for the relevant country and gear categories.

% effort			2000	2001	2002	2003	2004	2005	2006	2007	2008
7d	BEL	BT2	28%	33%	37%	38%	36%	35%	46%	56%	44%
		GN1	9%	13%	6%	13%	16%	16%	23%	1%	9%
		GT1								64%	46%
	BEL	total	18%	22%	26%	29%	27%	25%	34%	41%	33%
	ENG	BT2	8%	10%	20%	23%	16%	9%	11%	9%	15%
		DREDGE	76%	76%	72%	70%	65%	58%	76%	74%	62%
		GN1	4%	1%	0%	1%	1%	0%	1%	1%	7%
		GT1	6%	8%	16%	91%	85%	63%	35%	70%	43%
		LL1	10%	22%	14%	30%	28%	22%	42%	71%	86%
		OTTER	28%	39%	2%	28%	26%	20%	8%	23%	64%
		PEL_TRAW	47%	35%	20%	24%	31%	28%	22%	31%	22%
		POTS	25%	26%	29%	29%	29%	33%	30%	32%	31%
		TR2	29%	26%	22%	12%	14%	11%	10%	8%	8%
		TR3	0%	2%	0%	70%	0%	7%	6%	8%	0%
	ENG	total	12%	13%	14%	18%	17%	15%	14%	17%	17%
	FRA	BEAM	90%	8%	100%	60%	87%	77%	75%	67%	100%
		BT2	83%	92%	86%	93%	95%	95%	97%	92%	94%
		GN1	83%	95%	91%	93%	77%	90%	94%	90%	86%
		GT1	61%	75%	76%	81%	82%	82%	71%	73%	75%
		LL1	100%	100%	100%	100%	100%	100%	100%	100%	42%
		TR1	10%	7%	10%	4%	3%	6%	2%	12%	1%
		TR2	87%	79%	87%	87%	90%	89%	91%	88%	85%
		TR3	62%	52%	56%	100%	100%	87%	100%	100%	99%
	FRA	total	67%	66%	71%	73%	77%	77%	75%	74%	69%
	GER	PEL_TRAW	25%	14%	15%	11%	16%	15%	16%	35%	25%
	GER	total	2%	2%	2%	1%	2%	2%	2%	2%	2%
	NED	DREDGE	100%	100%	100%	41%	51%	47%	49%	40%	51%
		OTTER	62%	77%	77%	26%	0%	0%	0%	0%	
		PEL_TRAW	41%	40%	26%	34%	28%	30%	26%	33%	54%
		TR1	0%	1%	0%	2%	1%	0%	0%	0%	0%
		TR2	8%	14%	9%	7%	17%	21%	19%	24%	25%
	NED	total	3%	3%	3%	4%	4%	4%	3%	4%	6%
	SCO	DREDGE	1%	1%	0%	7%	6%	5%	16%	20%	21%
	SCO	total	0%	0%	0%	0%	0%	0%	1%	2%	2%

6.4. Management area 3c: Irish Sea

6.4.1. Trends in nominal effort

Effort within the Irish Sea has been compiled for kW*days-at-sea, GT*days-at-sea, and numbers of vessels. Within the report focus is on kW*Days at sea. Information on GT*days at sea and numbers of vessels is available via the website:

https://stecf.jrc.ec.europa.eu/meetings/2009?p_p_id=62_INSTANCE_ujGU&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_ujGU_struts_action=%2Fjournal_articles%2Fview&_62_INSTANCE_ujGU_groupId=1416&_62_INSTANCE_ujGU_articleId=132840&_62_INSTANCE_ujGU_version=1.0.

Tables 6.4.1.1 and 6.4.1.2 detail nominal effort by nation, in kW*days-at-sea, according to Annex IIa of Coun. Reg. 40/2008, and Annex I of Coun. Reg. 1342/2008 (new cod plan). In comparison with 2008 data submissions, overall nominal effort figures show inconsistency for some nations (Tables 6.4.1.3). This relates, in several cases to changes in days-at-sea effort calculation methodology, including Irish and French data. For Belgium the effort calculated in last year's report as kW*fishing hours have been corrected to kW*days at sea taking into account the days spent in an area as a fraction of a day

multiplied by the kW of the vessel. The UK England and Wales figures have changed substantially. A large amount of effort had previously been excluded due to inappropriately assigned special conditions. Further more, effort previously included within existing special condition categories has been moved into the equivalent categories without special condition.

Nominal effort (kW*days-at-sea) within the Irish Sea has decreased by 28% since 2000 (Table 6.4.1.4 and Table 6.4.1.5). The overall trend indicates historical effort was relatively stable until 2003, after which a decline occurs, 32% from 2003 to 2008. Overall effort levels indicate a plateau in recent years.

Unidentified effort (regulated gear 'none') is highest prior to 2003, accounting for approximately 35%. A large proportion of this group was due to Irish effort reported without mesh size information. This is reflected by a decrease in unassigned effort, coupled with increases in both trawl and beam trawl effort from 2003. The remainder of the none category comprises of unregulated gear types and mesh sizes, this has represented approximately 18-30% of nominal effort since 2003. Section 6.4.5 provides a breakdown of this group by gear type. Due to the lack of Irish mesh size information prior to 2003, discussions are primarily focused on data from 2003 onwards.

Over the time series available here, Irish Sea fisheries have been dominated by demersal trawling and seining (category 4a and TR), having remained proportionally stable since 2003, (around 60% of total effort). Actual effort within categories 4a and TR have declined since 2003, stabilising over the last three years, reflecting the trend in total nominal effort (Figure 6.4.1.1 and Figure 6.4.1.4). Beam trawling accounts for the majority of remaining effort. This group has declined over time, to <10% in 2008. All other regulated gears account for <1.5% combined.

Demersal trawl and seining is dominated by gear group 4.a.ii having 70-89mm mesh (Figure 6.4.1.2), accounting for an increasing proportion of annual effort within this group since 2003. Accounting for >85% in the last two years. Category 4.a.iv (100-119mm) accounts for most of the remaining trawl effort, which in contrast, has shown a continual decline in effort contribution from 40% in 2003 to 10% in 2007, increasing slightly in 2008. Within both mesh categories the majority of effort is not allocated to a special condition. The small proportions of effort allocated to special conditions in 2008 relate to IIA.8.c (<5% cod) and IIA.8.d (<5% cod, plaice and sole). Effort allocated to these special conditions has been declining in both 4.a.ii and 4.a.iv. The remaining regulated mesh sizes within 4a are of little importance, accounting for ~1% of effort within this gear group.

The trends for demersal trawl and seining in the new effort groups of Coun. Reg. 1342/2008 (Table 6.4.1.2 and Figure 6.4.1.4) are very similar to those of the old Annex IIa groups of Coun. Reg. 40/2008. TR2 encompasses mesh sizes 70mm to 99mm, in the Irish Sea very little effort occurs within the 90-99mm range, thus is equivalent to 4.a.ii. The same is true for TR1, which includes mesh sizes 100mm and above, in this area very little effort occurs with mesh sizes greater than or equal to120mm, thus equating to the 4.a.iv group. These trends can be seen in Figure 6.4.1.5.

Irish Sea Beam trawl effort occurs primarily within the 80-89mm mesh band, 4.b.i. No special conditions have been applied to this category. Due to lack of other mesh size effort within the area 4.b.i is equivalent to the BT2 effort group. A gradual declining trend is observed for this mesh range (Table 6.4.1.1 and Table 6.4.1.2). There has been no effort by beam trawlers using mesh sizes greater than or equal to 120mm. Note, Belgium beam trawl effort within the Irish Sea contains assumed mesh sizes, as described in Section

5.5.2. Gillnetting in the Irish Sea, although at very low levels has increased in the last two years, primarily of mesh size 150-220mm (4.c.iii) (Figure 6.4.1.3).

Table 6.4.1.1. Irish Sea trends in nominal effort (kW*days at sea) by existing derogations given in Table 1 of Annex IIA Coun. Reg. 40/2008 and Member State, 2000-2008. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 5.5.2 and Table 5.5.2.1.

REG GEAI	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
4ai	none	ENG				134					
4ai	none	IRL				2,573	2,298	16,192	9,106		10,441
4ai	none	NIR					2,560		2,204		
4ai	none	DEN				992					
4aii	IIA83c	ENG	581	111			111				
4aii	IIA83c	NIR	7,040								
4aii	IIA83d	ENG			333						
4aii	IIA83d	FRA	3,271					588			
4aii	IIA83d	NIR	2,118								
4aii	IIA83d	SCO	60,274	27,434	18,499	38,362	31,020	15,401	7,301	11,037	2,969
4aii	none	BEL					13,210	41,730	31,762	76,592	66,847
4aii	none	ENG	439,116	330,457	243,262	204,394	278,340	246,100	220,036	231,301	202,750
4aii	none	FRA	37,633	4,867	785	392		2,352			
4aii	none	GBJ	530								
4aii	none	IOM	12,846	14,622	10,319	10,773	9,486	23,820	3,765	19,035	13,473
4aii	none	IRL				1,199,753	1,354,757	1,456,016	1,455,655	1,570,991	1,300,554
4aii	none	NIR	3,843,499	3,864,781	2,917,547	3,366,055	3,110,075	3,187,856	2,948,431	3,114,050	3,333,477
4aii	none	SCO	3,835	6,824		4,106	62,165	19,015	134	269	8,580
4aiii	IIA83d	FRA		672							
4aiii	none	ENG	34,428	5,588	16,836	7,380	69,397	41,691	27,634	13,160	16,706
4aiii	none	FRA	53								
4aiii	none	IOM	5,440	9,523	6,963	7,855	1,340	3,385	1,662	10,728	1,119
4aiii	none	IRL				10,850	2,171	13,239	3,392	10,555	4,960
4aiii	none	NIR	3,033	4,906		558	522	1,125	7,713	10,886	13,461
4aiii	none	SCO				2,187	586			5,502	10,446
4aiv	IIA83c	ENG	482	1,110	1,443	2,220	2,664	777		222	
4aiv	IIA83c	FRA			8,189	4,422	9,958				
4aiv	IIA83c	NIR	39,101	22,509	16,765	6,603	4,748	8,389	15,554	10,950	6,126
4aiv	IIA83d	ENG		2,442	777	4,639					
4aiv	IIA83d	FRA	28,234	22,324	145,332	41,729	68,970	54,773	33,964	13,981	3,293
4aiv	IIA83d	NIR	40,162	37,478	23,256	99,000	30,105	18,818	13,227	5,350	13,770
4aiv	IIA83d	SCO	19,579	30,651	28,557	26,117	26,021	3,889	1,762		
4aiv	IIA83k	FRA	8,256	10,321	30,589	14,927	44,881				
4aiv	none	ENG	248,196	356,869	290,734	294,901	189,222	89,418	68,215	16,291	5,828
4aiv	none	FRA	97,274	457,856	439,318	360,014	158,670	200,903	107,999	56,863	11,931
4aiv	none	IOM	21,107	511	1,204	9,070	362	172		649	895
4aiv	none	IRL				350,361	135,156	87,263	86,418	139,013	73,328
4aiv	none	NIR	1,263,677	1,553,540	1,806,252	1,943,616	1,127,036	843,785	747,363	322,223	488,643
4aiv	none	SCO	91,595	88,560	55,875	62,612	4,096		1,342		
4aiv	none	SPN						69,276	78,870	36,669	58,812
4av	IIA83c	ENG	3,108	888	555	111				111	
4av	IIA83c	NIR							445	428	
4av	IIA83d	ENG	222	222		222					
4av	IIA83d	NIR							445	1,284	
4av	IIA83d	SCO					1,148				
4av	none	ENG	3,164	2,174	6,236	97,793	5,465	4,006	690	222	104
4av	none	FRA			539						
4av	none	IRL				8,669	1,280		3,927	1,380	
4av	none	NED									442
4av	none	NIR				4,690		1,484	8,346		1,612
4av	none	SCO				3,787	839				
4bi	none	BEL	1,273,518	1,791,577	2,078,795	1,884,843	1,429,110	1,630,797	1,109,075	911,537	531,575
4bi	none	ENG	118,325	193,846	110,672	172,354	68,579	161,500	59,199	31,112	17,349
4bi	none	GBJ	18,484	22,377	27,803	40,878	42,260	3,542			
4bi	none	IRL				363,594	389,574	486,120	481,404	538,893	372,505
4bi	none	NED	206,768		1,750			5,884			
4bi	none	SCO									1,378
4bii	none	IRL				23,115	5,215	13,025		11,640	
4bii	none	SCO								1,074	
4biii	IIA83c	ENG	288								
4biii	none	IRL				396,672	16,563	12,670			
4ci	none	ENG	470		446				4,309	1,728	410
4ci	none	IRL				2,129	1,858	23,321	307	963	853
4ci	none	NED		660					161		
4ci	none	SCO						895			
4cii	none	ENG	18,835	12,366	8,322	13,841	7,196	6,119	3,659	2,202	683
4cii	none	IRL				16,757	16,417	724	6,428	10,844	5,285
4ciii	none	ENG	3,436		2,148	840					
4ciii	none	IRL				12,208	8,559	568	18,869	33,274	33,982
4ciii	none	NIR	1,332	2,442	4,329		222				

Table 6.4.1.1 Continued.

REG GEAF	SPECON	COUNTRY	2,000	2,001	2,002	2,003	2,004	2,005	2,006	2,007	2,008
4civ	IIA83f	ENG			1,522	191	1,112	1,842			
4civ	none	ENG		350			4,018	2,050	410		3,204
4civ	none	IRL					560	2,059			837
4d	IIA83g	ENG									82
4d	none	ENG	523						475	656	984
4d	none	IRL									1,327
4e	none	ENG	180,243	171,126	86,688	44,138	58,414	93,773	59,656	12,238	840
4e	none	IRL		955			800				149
4e	none	SCO		13,284		3,247					
4e	none	SPN						12,174	18,476	19,734	21,492
Total Regulated			8,140,076	9,066,223	8,392,640	11,166,674	8,799,116	8,908,526	7,649,790	7,255,637	6,643,502
none	none	BEL		6,808		528					51,749
none	none	ENG	350,180	417,861	584,819	648,435	546,205	596,426	690,431	590,740	505,423
none	none	FRA								5,946	
none	none	GBG									397
none	none	GBJ	113,032	33,456	72,836	74,180	76,378	17,726	11,996	35,952	53,928
none	none	IOM	11,127	7,319	7,564	10,154	6,782	5,194	10,315	13,983	47,908
none	none	IRL	3,283,712	2,891,998	2,969,880	564,591	845,620	397,307	332,856	434,928	372,272
none	none	NED	3,960	7,428	4,412		14,520	12,797	525	4,725	54,075
none	none	NIR	296,728	332,259	236,069	303,426	254,068	245,299	272,596	300,976	350,753
none	none	SCO	703,739	1,003,811	805,622	901,594	725,105	807,055	603,817	940,517	1,260,522
Total Unregulated			4,762,478	4,700,940	4,681,202	2,502,908	2,468,678	2,081,804	1,922,536	2,327,767	2,697,027
Overall Total			12,902,554	13,767,163	13,073,842	13,669,582	11,267,794	10,990,330	9,572,326	9,583,404	9,340,529

Table 6.4.1.2. Irish Sea trends in nominal effort (kW*days at sea) by gear groups of Annex I, Coun. Reg. 1342/2008 and Member State, 2000-2008. Sorted by gear, and country. Data qualities are summarised in Section 5.2.2 and Table 5.2.2.1.

REG GEAR	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
TR1	ENG	255,172	363,705	299,745	399,886	197,351	94,201	68,905	16,846	5,932
TR1	FRA	133,764	490,501	623,967	421,092	282,479	255,676	141,963	70,844	15,224
TR1	IOM	21,107	511	1,204	9,070	362	172		649	895
TR1	IRL				359,030	136,436	87,263	90,345	140,393	73,328
TR1	NED									442
TR1	NIR	1,342,940	1,613,527	1,846,273	2,053,909	1,161,889	872,476	785,380	340,235	510,151
TR1	SCO	111,174	119,211	84,432	92,516	32,104	3,889	3,104		
TR1	SPN						69,276	78,870	36,669	58,812
TR2	BEL					13,210	41,730	31,762	76,592	66,847
TR2	ENG	474,125	336,156	260,431	211,774	347,848	287,791	247,670	244,461	219,456
TR2	FRA	40,957	5,539	785	392		2,940			
TR2	GBJ	530								
TR2	IOM	18,286	24,145	17,282	18,628	10,826	27,205	5,427	29,763	14,592
TR2	IRL				1,210,603	1,356,928	1,469,255	1,459,047	1,581,546	1,305,514
TR2	NIR	3,855,690	3,869,687	2,917,547	3,366,613	3,110,597	3,188,981	2,956,144	3,124,936	3,346,938
TR2	SCO	64,109	34,258	18,499	44,655	93,771	34,416	7,435	16,808	21,995
TR3	ENG				134					
TR3	IRL				2,573	2,298	16,192	9,106		10,441
TR3	NIR					2,560		2,204		
TR3	DEN				992					
BT2	BEL	1,273,518	1,791,577	2,078,795	1,884,843	1,429,110	1,630,797	1,109,075	911,537	531,575
BT2	ENG	118,613	193,846	110,672	172,354	68,579	161,500	59,199	31,112	17,349
BT2	GBJ	18,484	22,377	27,803	40,878	42,260	3,542			
BT2	IRL				783,381	411,352	511,815	481,404	550,533	372,505
BT2	NED	206,768		1,750			5,884			
BT2	SCO								1,074	1,378
GN1	ENG	22,741	12,716	12,438	14,872	12,326	10,011	8,378	3,930	4,297
GN1	IRL	11,031	27,746	57,472	76,613	60,549	26,672	25,604	45,081	40,957
GN1	NED		660					161		
GN1	NIR	1,332	2,442	4,329		222				
GN1	SCO						895			
GT1	ENG	523						475	656	1,066
GT1	IRL									1,327
LL1	ENG	180,243	171,126	86,688	44,138	58,414	93,773	59,656	12,238	840
LL1	IRL		955			800				149
LL1	SCO		13,284		3,247					
LL1	SPN						12,174	18,476	19,734	21,492
Total Regulated		8151107	9093969	8450112	11212193	8832271	8908526	7649790	7255637	6643502
none	BEL		6808		528					51749
none	ENG	350180	417861	584819	648435	546205	596426	690431	590740	505423
none	FRA								5946	
none	GBG									397
none	GBJ	113032	33456	72836	74180	76378	17726	11996	35952	53928
none	IOM	11127	7319	7564	10154	6782	5194	10315	13983	47908
none	IRL	3272681	2864252	2912408	519072	812465	397307	332856	434928	372272
none	NED	3960	7428	4412		14520	12797	525	4725	54075
none	NIR	296728	332259	236069	303426	254068	245299	272596	300976	350753
none	SCO	703739	1003811	805622	901594	725105	807055	603817	940517	1260522
Total Unregulated		4,751,447	4,673,194	4,623,730	2,457,389	2,435,523	2,081,804	1,922,536	2,327,767	2,697,027
Overall Total		12,902,554	13,767,163	13,073,842	13,669,582	11,267,794	10,990,330	9,572,326	9,583,404	9,340,529

Table 6.4.1.3. Irish Sea relative differences in nominal effort (kW*days at sea) 2009 submissions by Member State for existing derogations given in Table 1 of Annex IIA Coun. Reg. 40/2008. Derogations are sorted by gear, special condition (SPECON), and country.

REG GEAI	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
4ai	none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
4ai	none	IRL	0%	0%	0%	-3%	47%	-12%	-13%	0%
4ai	none	NIR	0%	0%	0%	0%	0%	0%	0%	0%
4aii	IIA83c	ENG	-99%	-100%			-100%			
4aii	IIA83c	NIR	-99%							
4aii	IIA83d	ENG			-100%					
4aii	IIA83d	FRA	-30%	0%	0%	0%	0%	0%	0%	0%
4aii	IIA83d	NIR	-100%							
4aii	IIA83d	SCO	0%	0%	4%	1%	0%	0%	0%	0%
4aii	none	ENG	77%	111%	194%	138%	83%	88%	186%	175%
4aii	none	FRA	-14%	-44%	-56%	-33%	0%	0%	0%	
4aii	none	IOM	321050%	579%	0%	15979%	2081%	1068%	524%	0%
4aii	none	IRL	0%	0%	0%	-1%	-1%	0%	0%	2%
4aii	none	NIR	84%	110%	174%	198%	191%	176%	167%	167%
4aii	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4aiii	IIA83d	FRA	0%	0%	0%	0%	0%	0%	0%	0%
4aiii	none	ENG	70%	21%	1531%	2517%	23%	50%	44%	13%
4aiii	none	FRA	-83%	0%	0%	0%	0%	0%	0%	0%
4aiii	none	IOM	0%	696%	53462%	0%	0%	443%	262%	0%
4aiii	none	IRL	0%	0%	0%	3%	4%	0%	-15%	-22%
4aiii	none	NIR	0%	6%	0%	0%	52%	19%	120%	8%
4aiii	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4aiv	IIA83c	ENG	-89%	-97%	-94%	-93%	32%	-75%		-81%
4aiv	IIA83c	FRA	0%	0%	-28%	-19%	-17%	0%	0%	0%
4aiv	IIA83c	NIR	-43%	-77%	-92%	-97%	-97%	-84%	-68%	-59%
4aiv	IIA83d	ENG		-97%	-99%	-96%				
4aiv	IIA83d	FRA	-18%	-12%	-11%	-15%	-11%	-28%	-21%	-13%
4aiv	IIA83d	NIR	-90%	-93%	-96%	-84%	-94%	-95%	-96%	-97%
4aiv	IIA83d	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4aiv	IIA83k	FRA	-22%	-20%	-18%	-19%	-16%	0%	0%	0%
4aiv	none	ENG	52%	53%	57%	76%	81%	43%	10%	12%
4aiv	none	FRA	-11%	-8%	-7%	-9%	-3%	-6%	-6%	-5%
4aiv	none	IOM	32%	0%	0%	102%	0%	0%	0%	0%
4aiv	none	IRL	0%	0%	0%	1%	1%	3%	-1%	-1%
4aiv	none	NIR	42%	58%	70%	63%	110%	85%	98%	221%
4aiv	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4av	IIA83c	ENG	3690%	-23%	-39%	-95%				0%
4av	IIA83c	NIR	0%	0%	0%	0%	0%	0%	-92%	-75%
4av	IIA83d	ENG	-97%	-88%		-99%		0%	0%	
4av	IIA83d	NIR	0%	0%	0%		0%	0%	0%	0%
4av	IIA83d	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4av	none	ENG	2024%	795%	0%	21%	72%	26%	0%	0%
4av	none	FRA	0%	0%	-8%	0%	0%	0%	0%	0%
4av	none	IRL	0%	0%	0%	3%	2%	0%	-5%	13%
4av	none	NIR	0%	0%	0%	205%	0%	0%	127%	0%
4av	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4bi	none	BEL	30%	21%	18%	22%	25%	24%	26%	34%
4bi	none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
4bi	none	GBJ	0%	0%	0%	0%	0%	0%	0%	0%
4bi	none	IRL	0%	0%	0%	-3%	11%	1%	-2%	4%
4bii	none	IRL	0%	0%	0%	-8%	-9%	4%	0%	-1%
4bii	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4biii	none	IRL	0%	0%	0%	-3%	-3%	0%	0%	0%
4ci	none	ENG	0%	0%	0%	0%	0%	0%	30%	40%
4ci	none	IRL	0%	0%	0%	9%	52%	-7%	119%	50%
4ci	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4cii	none	ENG	2%	13%	20%	21%	11%	110%	56%	59%
4cii	none	IRL	0%	0%	0%	-46%	-43%	-45%	-22%	107%
4ciii	none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
4ciii	none	IRL	0%	0%	0%	-9%	-2%	-26%	-15%	1%
4ciii	none	NIR	0%	0%	0%	0%	0%	0%	0%	0%
4civ	none	ENG	0%	0%			261%	118%	0%	0%
4civ	none	IRL	0%	0%	0%	0%	75%	-10%	0%	0%
4d	none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
4e	none	ENG	2%	0%	1%	0%	11%	16%	168%	234%

Table 6.4.1.3. Continued.

REG GEAI	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
4e	none	IRL	0%	0%	0%	0%	0%	0%	0%	
4e	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
none	none	BEL	0%	54%	0%	2%				
none	none	ENG	19%	11%	4%	3%	5%	6%	16%	15%
none	none	FRA	0%	0%	0%		0%	0%	0%	-53%
none	none	GBJ	73%	0%	13%	4%	0%	0%	0%	0%
none	none	IOM	33%	32%	3967%	249%	386%	503%	30%	0%
none	none	IRL	-20%	-19%	-22%	3%	-21%	-15%	-20%	-1%
none	none	NED	0%	0%	-96%		-66%	-41%	-97%	-74%
none	none	NIR	32%	46%	30%	20%	23%	26%	37%	45%
none	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%

Table 6.4.1.4 Irish Sea. Trend in nominal effort (kW*days at sea) by derogation (Coun. Reg. 40/2008), 2000-2008.

REG AREA	REG GEAR	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008	Relative to 2003
2c	4ai	none				3699	4,858	16,192	11,310		10,441	1.82
2c	4aii	IIA83c	7,621	111			111					
2c	4aii	IIA83d	65,663	27,434	18,832	38,362	31,020	15,989	7,301	11,037	2,969	-0.92
2c	4aii	none	4,337,459	4,221,551	3,171,913	4,785,473	4,828,033	4,976,889	4,659,783	5,012,238	4,925,681	0.03
2c	4aiii	IIA83d		672								
2c	4aiii	none	42,954	20,017	23,799	28,830	74,016	59,440	40,401	50,831	46,692	0.62
2c	4aiv	IIA83c	39,583	23,619	26,397	13,245	17,370	9,166	15,554	11,172	6,126	-0.54
2c	4aiv	IIA83d	87,975	92,895	197,922	171,485	125,096	67,484	48,953	19,331	17,063	-0.90
2c	4aiv	IIA83k	8,256	10,321	30,589	14,927	44,881					-1.00
2c	4aiv	none	1,721,849	2,457,336	2,593,383	3,020,574	1,614,542	1,290,817	1,090,207	571,708	639,437	-0.79
2c	4av	IIA83c	3,108	888	555	111			445	539		-1.00
2c	4av	IIA83d	222	222		222	1,148		445	1,284		-1.00
2c	4av	none	3,164	2,174	6,775	114,939	7,584	5,490	12,963	1,602	2,158	-0.98
2c	4bi	none	1,617,095	2,007,800	2,219,020	2,461,669	1,929,523	2,287,843	1,649,678	1,481,542	922,807	-0.63
2c	4bii	none				23,115	5,215	13,025		12,714		-1.00
2c	4biii	IIA83c	288									
2c	4biii	none				396,672	16,563	12,670				-1.00
2c	4ci	none	470	660	446	2,129	1,858	24,216	4,777	2,691	1,263	-0.41
2c	4cii	none	18,835	12,366	8,322	30,598	23,613	6,843	10,087	13,046	5,968	-0.80
2c	4ciii	none	4,768	2,442	6,477	13,048	8,781	568	18,869	33,274	33,982	1.60
2c	4civ	IIA83f			1,522	191	1,112	1,842				-1.00
2c	4civ	none		350			4,578	4,109	410		4,041	
2c	4d	IIA83g									82	
2c	4d	none	523						475	656	2,311	
2c	4e	none	180,243	185,365	86,688	47,385	59,214	105,947	78,132	31,972	22,481	-0.53
2c	none	none	4,762,478	4,700,940	4,681,202	2,502,908	2,468,678	2,081,804	1,922,536	2,327,767	2,697,027	0.08
Total			12,902,554	13,767,163	13,073,842	13,669,582	11,267,794	10,980,334	9,572,326	9,583,404	9,340,529	-0.32

Table 6.4.1.5 Irish Sea. Trend in nominal effort (kW*days at sea) by effort group (Coun. Reg. 1342/2008), 2000-2008.

REG AREA	REG GEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008	2003
3c	TR1	1864157	2587455	2855621	3335503	1810621	1382953	1168567	605636	664784	-0.80
3c	TR2	4453697	4269785	3214544	4852665	4933180	5052318	4707485	5074106	4975342	0.03
3c	TR3				3699	4858	16192	11310		10441	1.82
3c	BT2	1617383	2007800	2219020	2881456	1951301	2313538	1649678	1494256	922807	-0.68
3c	GN1	35104	43564	74239	91485	73097	37578	34143	49011	45254	-0.51
3c	GT1	523						475	656	2393	
3c	LL1	180243	185365	86688	47385	59214	105947	78132	31972	22481	-0.53
3c	none	4751447	4673194	4623730	2457389	2435523	2081804	1922536	2327767	2697027	0.10
Total		12902554	13767163	13073842	13669582	11267794	10990330	9572326	9583404	9340529	-0.32

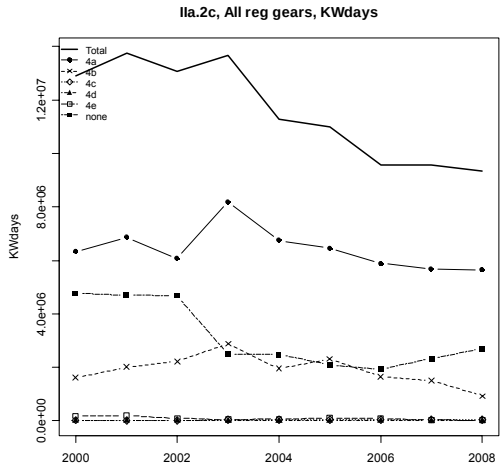


Figure 6.4.1.1. Irish Sea. Trend in nominal effort (kW*days-at-sea) by Coun. Reg. 40/2008, 2000-2008.

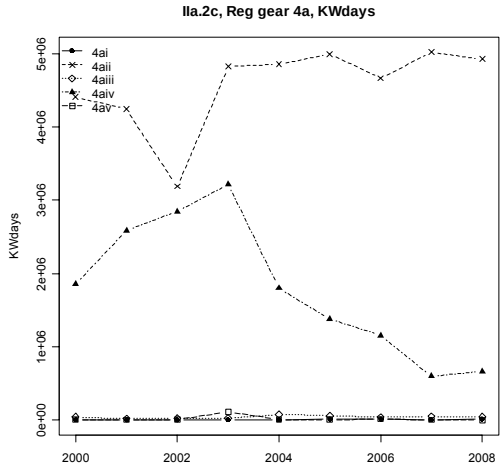


Figure 6.4.1.2. Irish Sea. Trend in nominal effort (kW*days at sea) by Coun. Reg. 40/2008 for 4.a, (demersal trawls and Danish seines), 2000-2008. Note that Irish data are only included for 2003-2008.

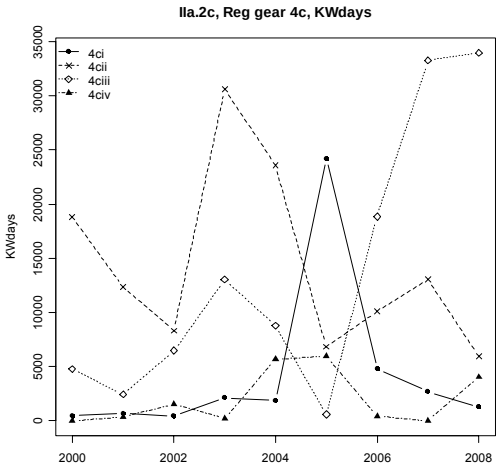


Figure 6.4.1.3. Irish Sea. Trend in nominal effort (kW*days at sea) by Coun. Reg. 40/2008 for 4.c, gear groups (g), 2000-2008. Note that Irish data are only included for 2003-2008.

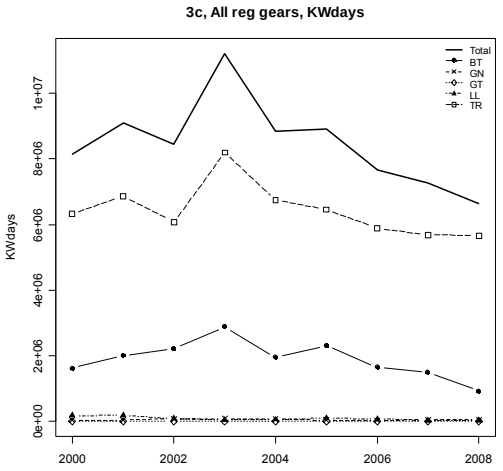


Figure 6.4.1.4. Irish Sea. Trend in regulated gear nominal effort (kW*days-at-sea) by Coun. Reg. 1342/2008, 2000-2008.

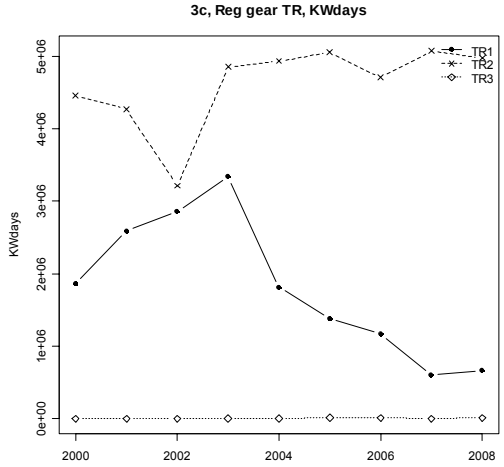


Figure 6.4.1.5. Irish Sea. Trend in regulated gear TR (demersal trawl and Danish seine) nominal effort (kW*days-at-sea) by Coun. Reg. 1342/2008, 2000-2008.

6.4.2. Trend in catch estimates in weight and numbers at age

Table 6.4.2.1 lists the landings and available discards for the main species by gear groups relating to Coun. Reg. 1342/2008. For the reason of space limitation of this report, the following sections represent the landings and discards in weight and numbers for monkfish (ANF), cod (COD), haddock (HAD), hake, (HKE), horse mackerel (JAX), mackerel (MAC), Nephrops (NEP), plaice (PLE), saithe (POK), rays (RAJ), sole (SOL), and whiting (WHG). Additional data queries for other species can be provided depending on data provisions of the national catches by the experts or national institutes. The data given in the table forms the basis of Figure 6.4.2.1 displaying the relative catch compositions by gear groups for the years 2003-2008. Absence of discard information within these figures indicates a lack of information rather than zero discards.

Discard information available within the Irish Sea is incomplete. Discard data is not available for all species and/or years within each gear grouping. In the demersal trawl (TR) groups, TR2 has the most data availability, with complete discard information for haddock, plaice and whiting but cod discard data was not available from 2003 or 2006. Availability of discard information is more sporadic in TR1. Beam trawl (BT) discards are available for 2007 and 2008 for cod, haddock, plaice, sole and whiting. No gillnet discard information was available.

The primary gear categories with landings from the Irish Sea are discussed. As a first note, cod area misreporting is known to be an issue for Ireland within this area, with ICES division VIIg cod catches being reported into the southern Irish Sea. This primarily relates to gillnet and otter trawl gear types. The misreporting in VIIa results from a restrictive VIIe-k quota. This has been occurring for a number of years, ranging between 54 t and 108 t from 2004-2006. The WGCSE (ICES, 2009) estimated that over 500 t of cod in 2007 and 2008 reported into three southern Irish Sea ICES statistical rectangles was caught in VIIg. This has not been corrected for within the data provided to the group.

Landings from the Irish Sea prior to 2007 had showed a declining trend. In 2007 landings increased to levels above those in 2003. 2008 landings are similar to those of 2007. Much of this increase can be attributed to increased *Nephrops* landings, the primary target species within the Irish Sea. Cod landings have also increased in the last two years, totalling 32% from 2006 levels. Many other species however, have declined, including plaice (31%), sole (35%), and anglerfish (36%). Demersal trawl and seining (TR) is by far the dominant fishing activity within the Irish Sea in relation to landings. This is primarily by TR2 (70-99mm mesh), accounting for increasing total annual landings, to over 80% of total annual landings in 2008. TR1 (>=100mm) shows a declining trend, accounting for 9% in 2008, compared to 19% in 2003.

In relation to species composition, TR2 primarily lands *Nephrops*. Other components, at comparatively low levels (<5%), include cod, haddock, plaice, and anglerfish (Figure 6.4.2.1). This category has previously accounted for between 30% and 40% of total cod landings, in 2008, cod landings from this group accounted for just 26%. An increasing proportion of plaice landings are from the TR2 category. In 2008 54% of plaice was landed by this group, having been around 17% in 2003. TR2 is accounting for an increasing proportion of anglerfish landings, in 2008 this is now up to 75%, having risen from 40% in 2003.

Discard information available for the TR2 category is greater than for any other category within the Irish Sea, covering cod, haddock, plaice, and whiting from 2003 to 2008. Cod

discard rates for the available years are at very low rates, 1-5%. Haddock indicates high discarding rates during 2004 to 2006, since when rates have fallen to 13% in 2008. Plaice discarding occurs at rates between 2-64%, the earlier section of the time series rates were increasing annually to 64% in 2006, since when rates have been low (2-15%). Whiting shows consistently high discarding rates within this gear category (>80%), with the exception of 2003.

The species composition of TR1, the larger mesh size group, is very different to TR2. The approx. 1,300 t landings from this category primarily consist of haddock and cod, around 15% hake, and low levels (<5%) of *Nephrops*, plaice and whiting (Figure 6.4.2.1). This category (except in 2007) continually accounts for the greatest annual cod landings, around 39-48%. TR1 consistently accounts for over 50% of annual haddock, and the majority of hake landings (66-79%).

In addition to demersal trawl and seine gear within the Irish Sea, beam trawls are also employed, solely within the BT2 (80-119mm) category. Belgium (and the Netherlands) beam trawls are assumed to have used the minimum mesh size group 80-89mm (Sec. 5.5.2), no assumptions are made for the remaining nations. Landings within this group have been continually declining, much of which may be due to decommissioning schemes. The species composition of this category is stable, dominated by sole (32-40%), rays (7-32%), and plaice (21-33%), with relatively consistent annual proportions (Figure 6.4.2.1). Previously, ray species accounted for around 15%, but in 2007 and 2008 the composition shifted to an increased presence of rays, and to 32% of BT2 landings in 2008. Consistent, low levels of landings of anglerfish (6-10%) are also made along with some cod, and haddock. The contribution of this category to total cod landings is decreasing, from around 18% in 2003, to just 2.5% in 2008. Contributions to plaice landings have declined slightly in the past two years from over 50% to approximately 38%. The majority of sole landings originate from this category (83%-95%).

Gillnet landings are low within the Irish Sea with cod the primary species landed (Figure 6.4.2.1). During the past three years, cod has accounted for a greater proportion of landings, accounting for 97% of gillnet landings in 2008. Between 2003 and 2006 cod gillnet landings totalled <100 t annually, however, in 2007 landings increased to over 300 t, reaching nearly 400 t in 2008.Previously saithe would also be landed accounting for around 15%. However, saithe now constitutes <5% of the landings.

The ToR request landings and discards at age by gear group for cod, plaice and sole. Numbers at age by the gear groups primarily landing these three species are illustrated in Figures 6.4.2.2-6.4.2.8. Additional species specific data queries could be provided on request depending on data provisions by the experts or national institutes. Information on weights at age were not considered to be adequate and are not discussed.

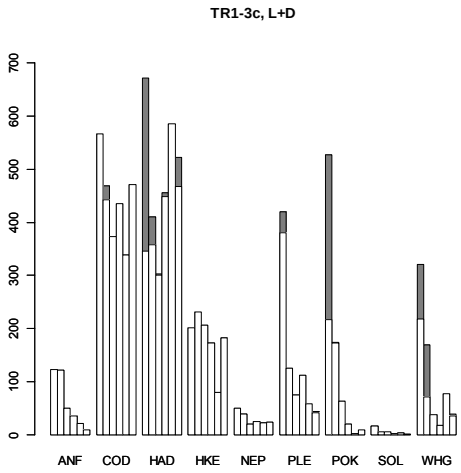
Cod age information shows that within TR1, landings are recorded from age 1 to 6, however the majority landed are age 2/3 (Figure 6.4.2.2). TR2 shows a similar pattern, with fish recorded up to age 8. Results show that in 2005 a high number of age 1 cod were landed. The data indicate exploitation in the Irish Sea primarily occurs at age 2, although there is some annual variation. In relation to discards, the majority occurs at age 1, with vast numbers being discarded. This is much reduced once cod are age 2. The beam trawl group BT2 shows the same exploitation pattern as the TR groups (Figure 6.4.2.3), however, no discard information was available. Little age information was available for the gillnet group (Figure 6.4.2.4), the few data indicate a different exploitation pattern. The majority landed are age 3, below which none are landed. In addition, a greater proportion of older ages are present.

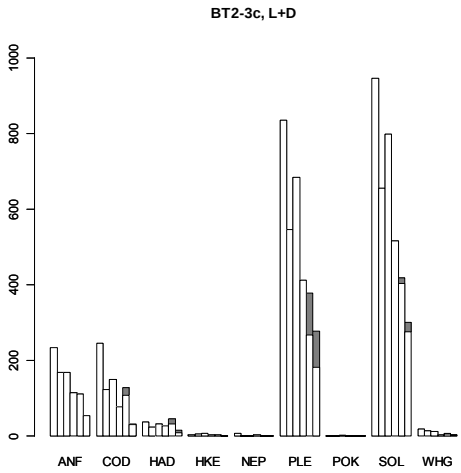
Numbers of plaice within TR2 are shown in Figure 6.4.2.5. Plaice are recorded from age 1 to 9. Highest landed numbers occur age 3-6, and in some instances age 2. Numbers are shown to be discarded at any age, particularly age 2. Discarded numbers are often higher than landed up to age 5 or 6. Little information is available for the TR1 group. A similar exploitation pattern is seen by the beam trawl BT2 group (Figure 6.4.2.6).

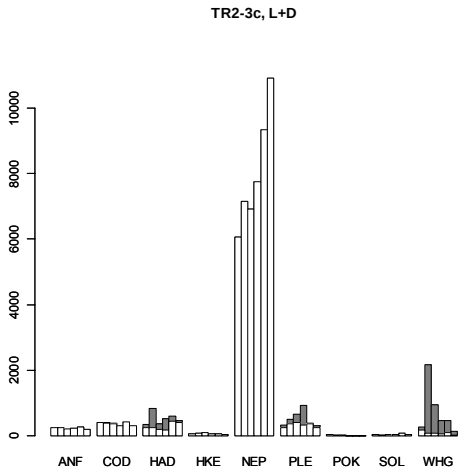
Sole numbers at age for TR2 are shown in Figure 6.4.2.7. Little consistency between years is seen in this gear group. Beam trawl category BT2 shows greater consistency (Figure 6.4.2.8). The majority of landings occur between age 3 and 5, peaking in most years at age 3. 2006-2008 also show age 1 sole landed. In earlier years the minimum landing age for sole was 2, from 2006 age 1 sole were also landed. Ages extend up to and likely beyond age 9. In the last three years numbers of ages 3-5 are below those of the previous period.

Table 6.4.2.1 Irish Sea. Landings (t), discards (t) and relative discard rates by species and gear according to Coun. Reg. 1342/2008, 2003-2008.

SPECIES	REG_AREA	REG_GEAR	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
ANF	3c	BT2	235			168			168			115			110	1	0.01	54		
ANF	3c	GN1	4			3			3			3						1		
ANF	3c	TR1	123			121			51			36			22			10		
ANF	3c	TR2	252			248			214			239			270			202		
ANF	3c	none	10			27			2			1			12					
COD	3c	BT2	245			123			150			77			108	20	0.16	31	1	0.03
COD	3c	GN1	89			96			47			93			322			392		
COD	3c	GT1													1			1		
COD	3c	LL1	1			1			2			3			1					
COD	3c	TR1	567			442	27	0.06	373			436			339			471		
COD	3c	TR2	411			393	15	0.04	369	20	0.05	306			426	5	0.01	316	1	
COD	3c	TR3																1		
COD	3c	none	10			22														
HAD	3c	BT2	37			24			33			27			32	13	0.29	9	6	0.4
HAD	3c	GN1	12			7			3			4			10			4		
HAD	3c	TR1	346	325	0.48	357	53	0.13	301	2	0.01	448	8	0.02	586			467	56	0.11
HAD	3c	TR2	245	109	0.31	258	567	0.69	186	193	0.51	167	350	0.68	440	153	0.26	405	61	0.13
HAD	3c	none	6			30	1													
HKE	3c	BT2	4			4			7			3			4			1		
HKE	3c	GN1	16			7			3			4			5			1		
HKE	3c	LL1										20								
HKE	3c	TR1	201			231			207			173			80			183		
HKE	3c	TR2	55			85			97			58			66			46		
HKE	3c	none				2														
JAX	3c	TR1	2																	
JAX	3c	TR3							25											
JAX	3c	none	37			12			35			21			50					
MAC	3c	GN1										1								
MAC	3c	TR1				1									1					
MAC	3c	TR2				2			1						1			2		
MAC	3c	none	35			3			173						1					
NEP	3c	BT2	7			1						3			1					
NEP	3c	GN1							9											
NEP	3c	TR1	50			39			20			25			23			24		
NEP	3c	TR2	6070			7147			6922			7745			9337			10900		
NEP	3c	TR3										1								
NEP	3c	none	34			286			1			5			3					
PLE	3c	BT2	836			547			685			412			267	111	0.29	182	95	0.34
PLE	3c	GN1							2											
PLE	3c	TR1	380	40	0.1	125			76			112			59			42	2	0.05
PLE	3c	TR2	254	83	0.25	369	141	0.28	408	255	0.38	333	596	0.64	377	8	0.02	262	45	0.15
PLE	3c	none	12			45	3		4			1								
POK	3c	BT2							2									1		
POK	3c	GN1	27			20			2			3			10			1		
POK	3c	TR1	217	310	0.59	172	2	0.01	63			20			3			9		
POK	3c	TR2	43			20			16			2			2					
POK	3c	none				3														
RAJ	3c	BT2	463			111			328			244			348			266		
RAJ	3c	GN1	3			2			28			1						4		
RAJ	3c	GT1																2		
RAJ	3c	TR1	392			159			119			96			73			51		
RAJ	3c	TR2	142			322			336			291			306			153		
RAJ	3c	none	79			174			6			1						4		
SOL	3c	BT2	947			656			799			516			404	14	0.03	276	25	0.08
SOL	3c	TR1	17			7			6			3			3			1		
SOL	3c	TR2	36			30			35			42			75			39		
SOL	3c	none	7			10			4			2			4					
WHG	3c	BT2	19			13			11			4			5	3	0.38	2	1	0.33
WHG	3c	GN1	11			5			1						1			1		
WHG	3c	TR1	218	102	0.32	72	97	0.57	38			18			78			36	3	0.08
WHG	3c	TR2	184	89	0.33	77	2086	0.96	82	861	0.91	54	404	0.88	92	383	0.81	24	108	0.82
WHG	3c	none	7			18	13													


TR1-3c, L+D
0
100
200
300
400
500
600
700
ANF
COD
HAD
HKE
NEP
PLE
POK
SOL
WHG


BT2-3c, L+D
0
200
400
600
800
1000
ANF
COD
HAD
HKE
NEP
PLE
POK
SOL
WHG


TR2-3c, L+D
0
2000
4000
6000
8000
10000
ANF
COD
HAD
HKE
NEP
PLE
POK
SOL
WHG

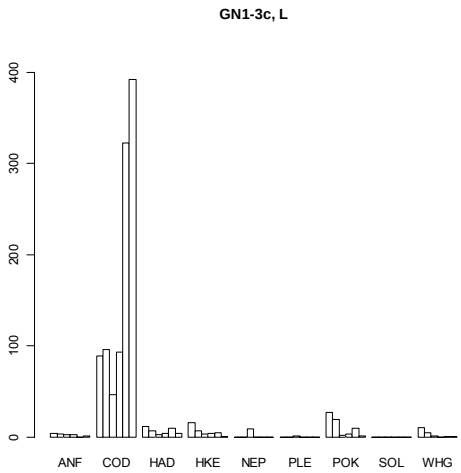

GN1-3c, L
0
100
200
300
400
ANF
COD
HAD
HKE
NEP
PLE
POK
SOL
WHG

Figure 6.4.2.1 Irish Sea. Landings (t) and discard (t) by derogation and species, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given species/gear/year in the graphs means rather no information than zero discards.

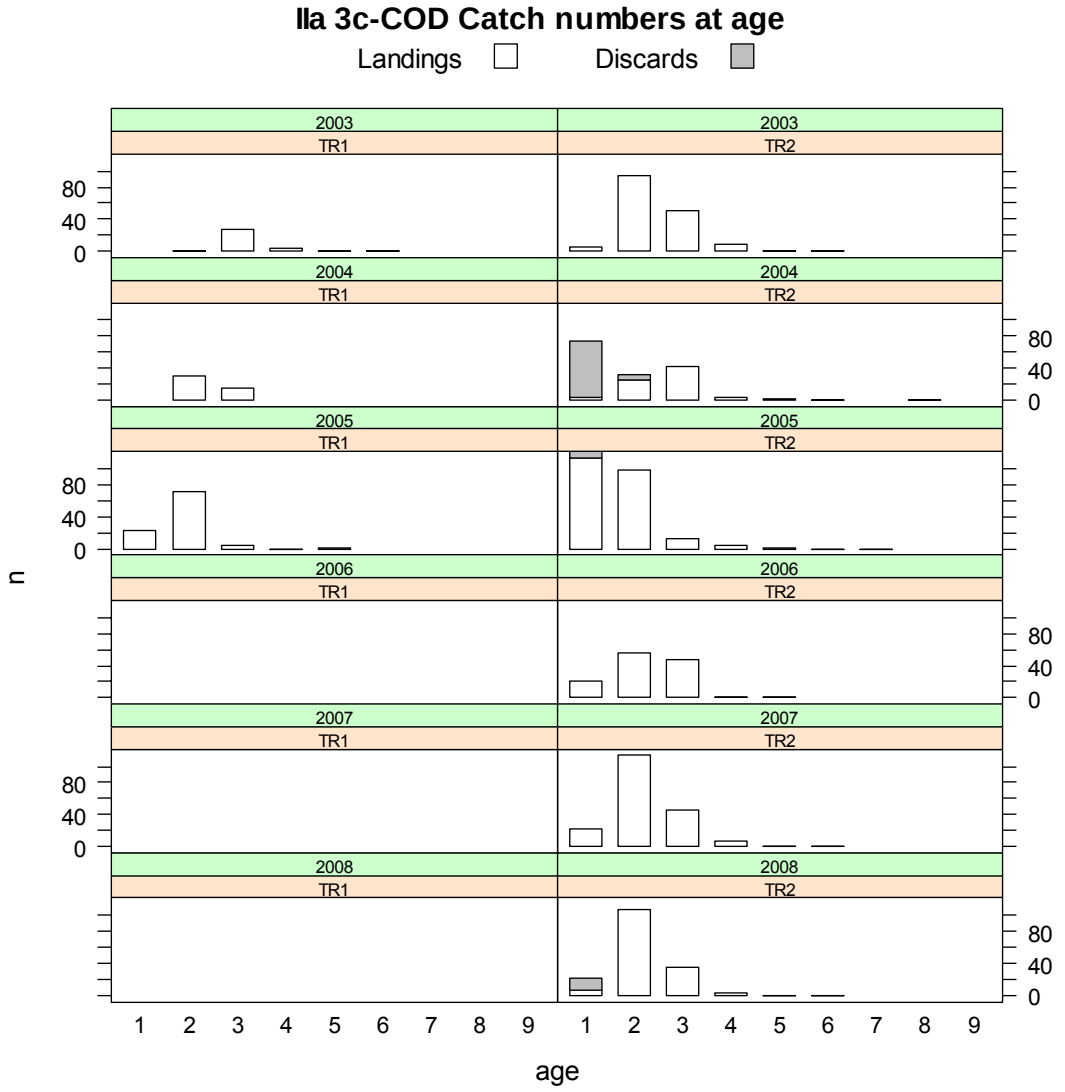


Figure 6.4.2.2 Irish Sea. Cod landings and discards ('000) at ages 1-9 in TR1 and TR2 associated with Coun. Reg. 1342/2008, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given gear/year in the graphs means rather no information than zero discards.

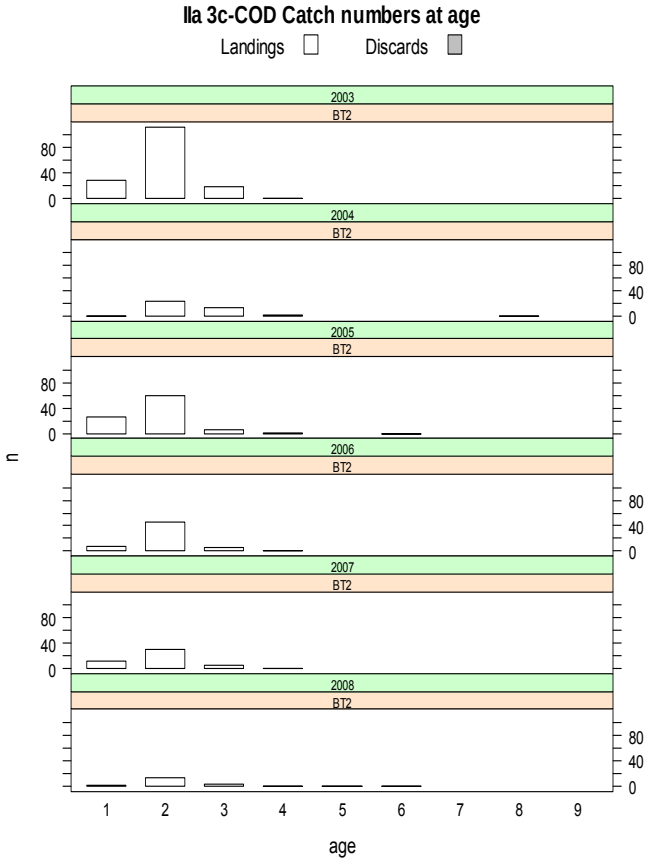


Figure 6.4.2.3 Irish Sea. Cod landings and discards (‘000) at ages 1-9 in BT2 associated with Coun. Reg. 1342/2008, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given gear/year in the graphs means rather no information than zero discards.

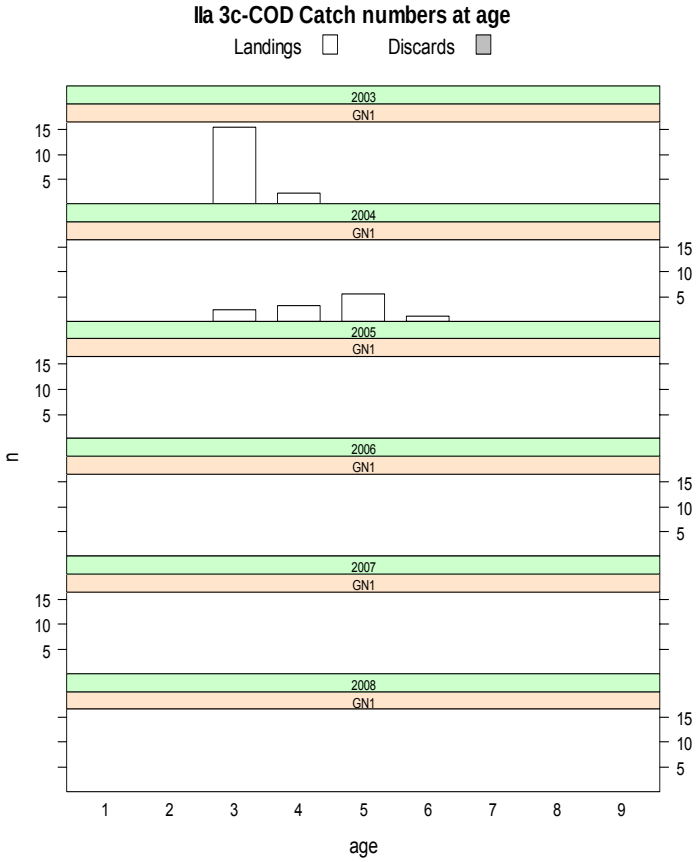


Figure 6.4.2.4 Irish Sea. Cod landings and discards (‘000) at ages 1-9 in GN1 associated with Coun. Reg. 1342/2008, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given gear/year in the graphs means rather no information than zero discards.

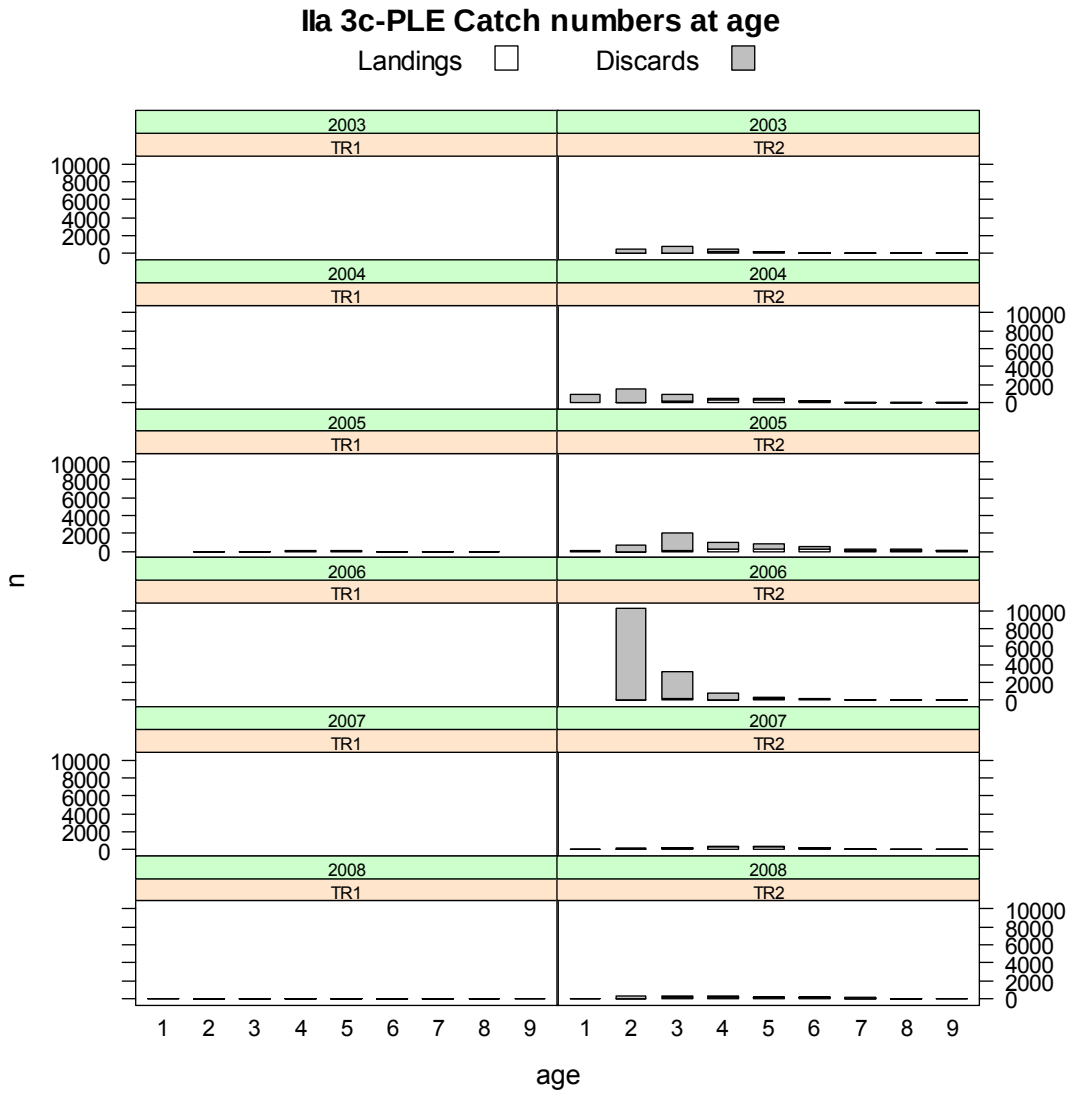


Figure 6.4.2.5 Irish Sea. Plaice landings and discards ('000) at ages 1-9 in TR1 and TR2 associated with Coun. Reg. 1342/2008, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given gear/year in the graphs means rather no information than zero discards.

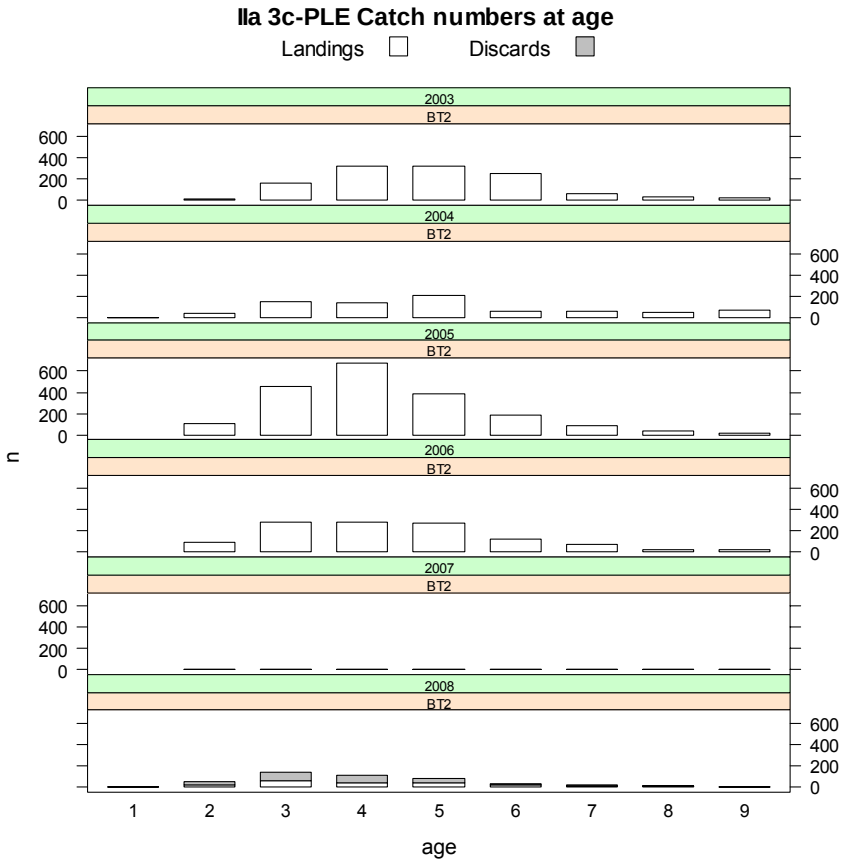


Figure 6.4.2.6 Irish Sea. Plaice landings and discards (‘000) at ages 1-9 in BT2 associated with Coun. Reg. 1342/2008, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given gear/year in the graphs means rather no information than zero discards.

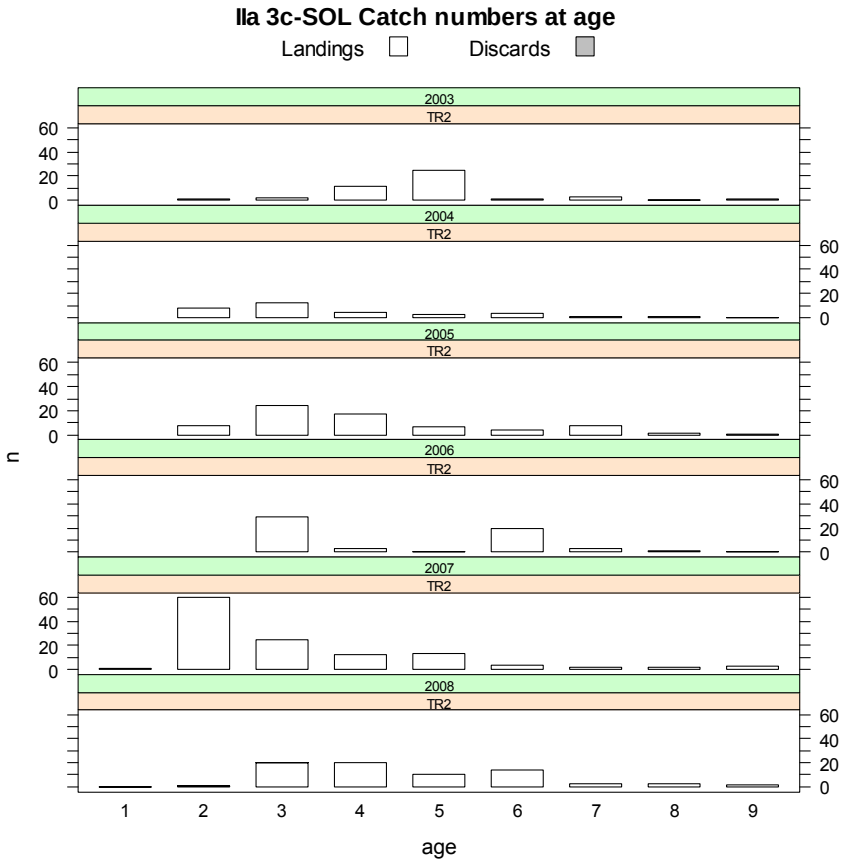


Figure 6.4.2.7 Irish Sea. Sole landings and discards ('000) at ages 1-9 in TR2 associated with Coun. Reg. 1342/2008, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given gear/year in the graphs means rather no information than zero discards.

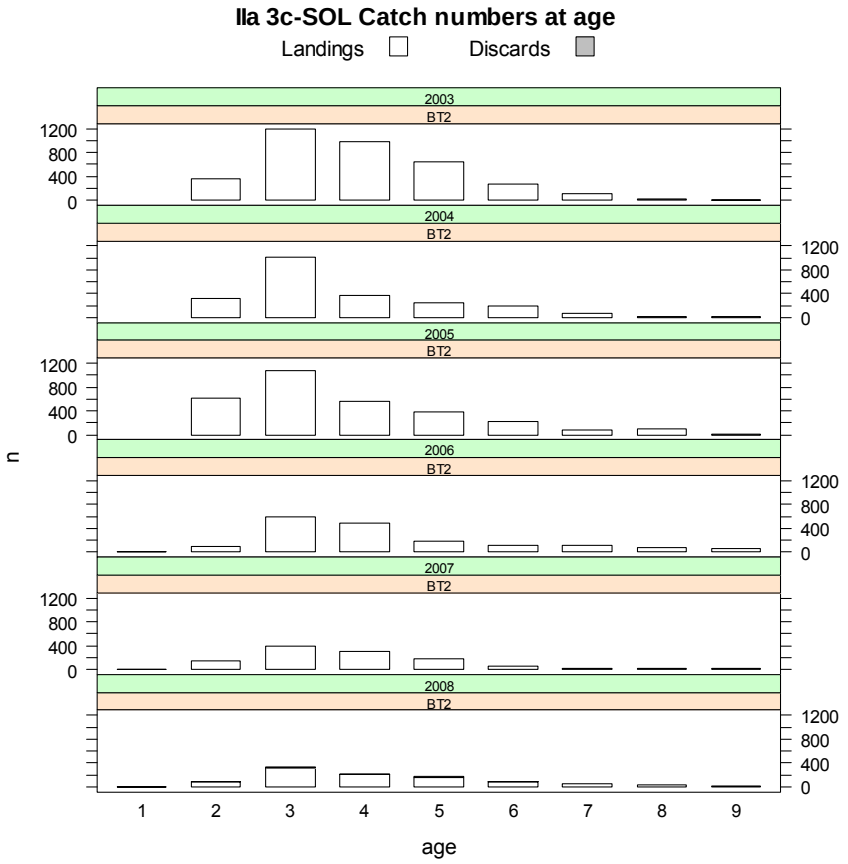


Figure 6.4.2.8 Irish Sea. Sole landings and discards (‘000) at ages 1-9 in BT2 associated with Coun. Reg. 1342/2008, 2003-2008 (from left to right). Note that discard data are only available for some species and gears, so the lack of discard information for a given gear/year in the graphs means rather no information than zero discards.

6.4.3. Trend in CPUE of cod, sole and plaice

Time series of discard data is available for a limited number of gear groups. Cod discard data is available for BT2 in 2007 and 2008, TR1 in 2004, and TR2 in years except 2003 or 2006. Plaice discard data is available for TR2 2003-2008, TR1 2003 and 2008, and BT2 2007 and 2008. Sole discard data is only available in BT2 in 2007 and 2008. Thus only these categories can be considered to provide CPUE where both landings and discards are available, the remainder must be considered as LPUE (landings per unit effort). The units used are grams per kW days-at-sea (g/kW*days)

Only the gears with relatively high effort and/or landings in the Irish Sea will be discussed here, as these are able to provide the most representative figures. Gear groups with little effort, and static gears where the use of kW*days-at-sea as an appropriate indication of effort is debatable, may have unrepresentative values and are not discussed. Values for cod, plaice, and sole are detailed below (Tables 6.4.3.1, 6.4.3.2, and 6.4.3.3 respectively)

The most important cod landings and effort allocations are within demersal trawl and seine categories TR1 and TR2, in addition to the beam trawl category BT2 in relation to effort. In relation to cod, LPUE is low and variable in both the TR2 and BT2 category (Table 6.4.3.1 and Figure 6.4.3.1). Cod values are far higher within the larger mesh trawl and seine group

TR1 showing an increasing trend particularly in the last two years. Values for cod are highest within the gillnet gear group, however this category may have unrepresentative values given the uncertainty of effort.

Amongst important gears responsible for plaice landings, BT2 shows the highest LPUE, although this is lower in the two most recent years (Table 6.4.3.2 and Figure 6.4.3.1). The demersal trawl and seine groups show lower and variable LPUEs. TR2 values are lower than those of TR1.

Only one gear category has high LPUE values for sole. This is the BT2 beam trawl category. LPUE of sole was highest in 2005 (Table 6.4.3.3 and Figure 6.4.3.1). LPUE values have been lower in the two most recent years. The only other gears recording landings of sole (TR1 and TR2) demonstrate far lower LPUEs, ≤15 g/kW Days.

Table 6.4.3.1 Irish Sea. Cod LPUE (g/(kW*days)) by gear group according to Coun. Reg. 1342/2008 and year, 2003-2008. CPUE data is limited, but can be made available if requested.

ANNEX	SPECIES	REG AREA C	REG GEAR C	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
IIa	COD	3c	BT2	85	63	65	47	73	34
IIa	COD	3c	GN1	973	1313	1251	2724	6590	8662
IIa	COD	3c	GT1					1524	418
IIa	COD	3c	LL1	21	17	19	38	31	
IIa	COD	3c	TR1	170	259	270	372	556	709
IIa	COD	3c	TR2	84	83	77	65	85	64
IIa	COD	3c	TR3						96

Table 6.4.3.2 Irish Sea. Plaice LPUE (g/(kW*days)) by gear group according to Coun. Reg. 1342/2008 and year, 2003-2008. CPUE data is limited, but can be made available if requested.

ANNEX	SPECIES	REG AREA C	REG GEAR C	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
IIa	PLE	3c	BT2	290	280	296	250	253	300
IIa	PLE	3c	GN1			53			
IIa	PLE	3c	GT1						
IIa	PLE	3c	TR1	126	69	54	97	94	65
IIa	PLE	3c	TR2	69	103	131	197	76	62
IIa	PLE	3c	TR3						

Table 6.4.3.3 Irish Sea. Sole LPUE (g/(kW*days)) by gear group according to Coun. Reg. 1342/2008 and year, 2003-2008. CPUE data is limited, but can be made available if requested.

ANNEX	SPECIES	REG AREA C	REG GEAR C	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
IIa	SOL	3c	BT2	328	337	345	312	280	326
IIa	SOL	3c	GN1						
IIa	SOL	3c	GT1						
IIa	SOL	3c	TR1	4	4	4	1	3	2
IIa	SOL	3c	TR2	7	6	7	9	15	8

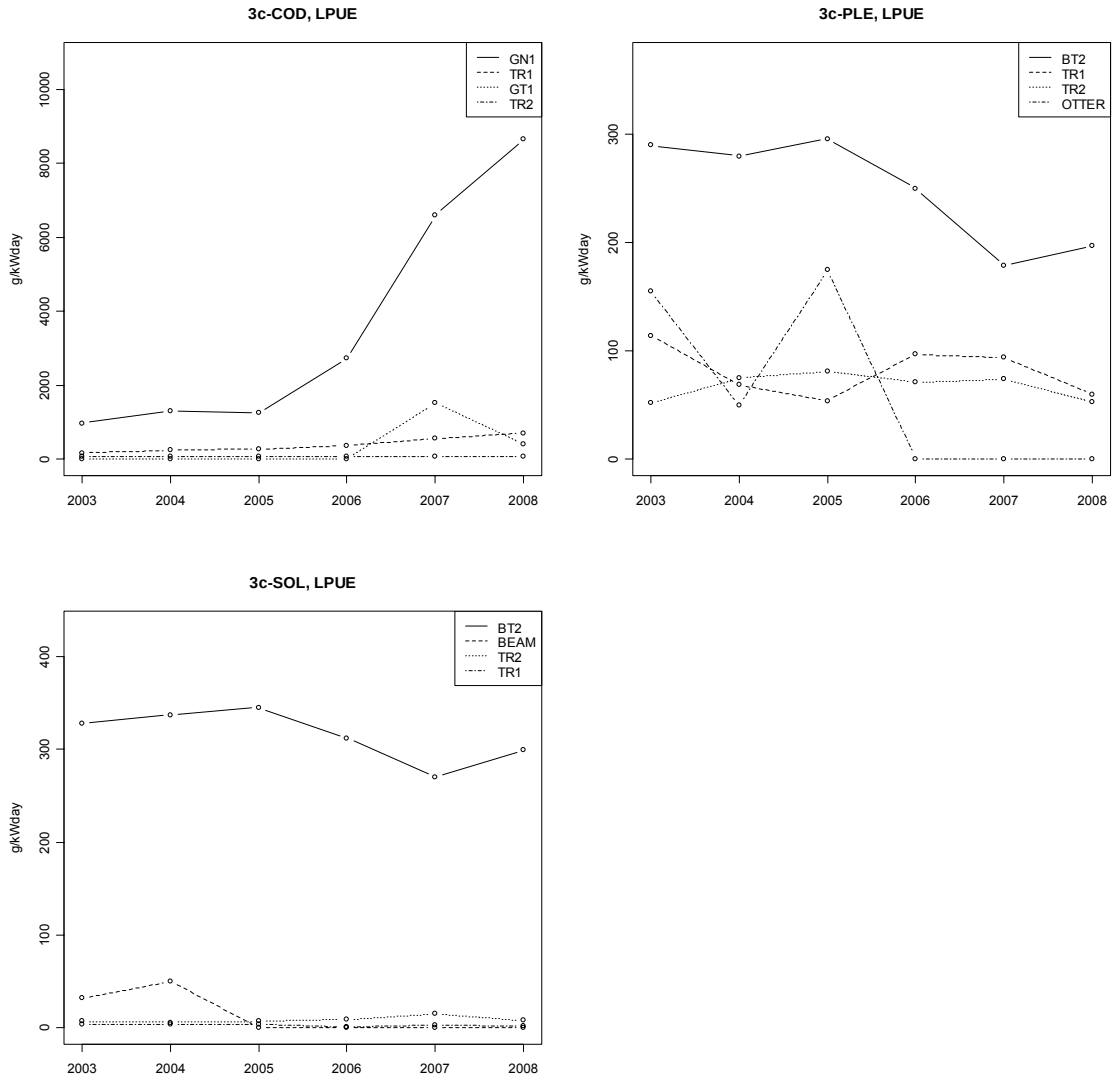


Figure 6.4.3.1. Irish Sea. Trends in cod, plaice, and sole LPUE (g/kW*days) by gear groups associated with Coun. Reg. 1342/2008, 2003-2008.

6.4.4. Ranking according to cod, sole and plaice catches

Ranked landings (Table 6.4.4.1) and catches (Table 6.5.3.2) are provided in weight for cod, plaice and sole. Catch rankings should not be taken as absolute, as discard data is not consistently available for all years or all categories introducing bias into the ranking. As a result only landings rankings are discussed.

Ranked landings of cod indicate several important categories. Relative proportions of cod in 2003 showed TR1 to rank highest, followed by TR2, BT2 and lastly GN1. Since then TR1 has remained in first position, around 40% of the cod, with the exception of 2007. For the majority of time TR2 ranked second. In 2007, TR2 outranked TR1. TR2's position changed again in 2008, being outranked by an increasing relative proportion from GN1, which currently ranks second. BT2 proportions have declined over the period, to 3% in

2008. The 3 year average of rankings is very similar to that of 2008, although the importance of the GN1 group is reduced.

Two gears dominate the ranking of plaice, TR2 and BT2. Prior to 2007 BT2 ranked first with 48-58%. This changed in 2007, when relative proportions of plaice in TR2 became greater with 54%. TR1 shows primarily low variable proportions. Average proportions retain the same ranking order as that of 2008.

Sole occurs primarily within the first ranking gear group, BT2, prior to 2007 the percentage of sole weight within this category was consistently greater than 90%. In 2007 however, this fell to 83%, and 87% in 2008. The contribution of TR2 has increased from around 4% in 2003-2006 to 12-15% in 2007-2008. TR1 accounts for around 1% annually. The values and ranking order of the 3 year average is the same as that of 2008.

Table 6.4.4.1 Irish Sea. Ranked derogations according to relative cod, plaice and sole landings in weight (t), 2003-2008. Ranking is according to the year 2008.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	Average 2006-2008
IIa	3c	COD	TR1	0.43	0.41	0.4	0.48	0.28	0.39	0.38
IIa	3c	COD	GN1	0.07	0.09	0.05	0.1	0.27	0.32	0.23
IIa	3c	COD	TR2	0.31	0.36	0.39	0.33	0.36	0.26	0.32
IIa	3c	COD	BT2	0.19	0.11	0.16	0.08	0.09	0.03	0.07
IIa	3c	COD	none		0.02					
IIa	3c	COD	TR3							
IIa	3c	COD	GT1							
IIa	3c	COD	LL1							
IIa	3c	PLE	TR2	0.17	0.34	0.35	0.39	0.54	0.54	0.49
IIa	3c	PLE	BT2	0.56	0.5	0.58	0.48	0.38	0.37	0.41
IIa	3c	PLE	TR1	0.26	0.12	0.06	0.13	0.08	0.09	0.1
IIa	3c	PLE	none		0.04					
IIa	3c	PLE	TR3							
IIa	3c	PLE	GN1							
IIa	3c	PLE	GT1							
IIa	3c	PLE	LL1							
IIa	3c	SOL	BT2	0.94	0.93	0.95	0.92	0.83	0.87	0.87
IIa	3c	SOL	TR2	0.04	0.04	0.04	0.07	0.15	0.12	0.11
IIa	3c	SOL	TR1	0.02	0.01	0.01	0.01	0.01		0.01
IIa	3c	SOL	none		0.01			0.01		0.01
IIa	3c	SOL	TR3							
IIa	3c	SOL	GN1							
IIa	3c	SOL	GT1							
IIa	3c	SOL	LL1							

Table 6.4.4.2 Irish Sea. Ranked derogations according to relative cod, plaice and sole catches in weight (t), 2003-2008. Ranking is according to the year 2008.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	Average 2006-2008
IIa	3c	COD	TR1	0.43	0.42	0.39	0.48	0.28	0.39	0.38
IIa	3c	COD	GN1	0.07	0.09	0.05	0.1	0.26	0.32	0.23
IIa	3c	COD	TR2	0.31	0.36	0.4	0.33	0.35	0.26	0.31
IIa	3c	COD	BT2	0.19	0.11	0.16	0.08	0.11	0.03	0.07
IIa	3c	COD	none		0.02					
IIa	3c	COD	TR3							
IIa	3c	COD	GT1							
IIa	3c	COD	LL1							
IIa	3c	PLE	TR2	0.21	0.41	0.46	0.64	0.47	0.49	0.53
IIa	3c	PLE	BT2	0.52	0.45	0.48	0.28	0.46	0.44	0.39
IIa	3c	PLE	TR1	0.26	0.1	0.05	0.08	0.07	0.07	0.07
IIa	3c	PLE	none		0.02					
IIa	3c	PLE	TR3							
IIa	3c	PLE	GN1							
IIa	3c	PLE	GT1							
IIa	3c	PLE	LL1							
IIa	3c	SOL	BT2	0.94	0.93	0.95	0.92	0.84	0.88	0.88
IIa	3c	SOL	TR2	0.04	0.04	0.04	0.07	0.15	0.11	0.11
IIa	3c	SOL	TR1	0.02	0.01	0.01	0.01	0.01		0.01
IIa	3c	SOL	none		0.01			0.01		0.01
IIa	3c	SOL	TR3							
IIa	3c	SOL	GN1							
IIa	3c	SOL	GT1							
IIa	3c	SOL	LL1							

6.4.5. Unregulated gear

Category ‘none none’ represents gear types and mesh sizes unregulated by Coun. Reg. 1342/2008. This section provides a break down of the main gears within this category in effort (kW*Days at sea), and cod, plaice and sole catches. ‘None none’ effort was relatively high within the Irish Sea prior to 2003, accounting for approximately 35% of overall effort. A large proportion of this group was due to Irish effort reported without mesh size information. Since 2003, this category has represented approximately 20-25% of nominal effort. None-none effort increased in 2008, to 29% of the effort. This increase primarily results from an increase in dredge activity.

The majority of effort within this grouping prior to 2003 could be divided into 3 main groups, OTTER (bottom trawls), DREDGE, and BEAM (Table 6.4.5.1 and Figure 6.4.5.1). Of these, OTTER contained the greatest effort, between 38-42%. From 2003 onwards this group accounts for up to 4.1%. The majority of effort is subsequently allocated to the dredge group, 58-71%, and much of the remainder to pots 22-31%. Low levels of effort also occur within the pelagic trawl and beam trawl categories.

Landings of cod (Table 6.4.5.2), plaice (Table 6.4.5.3) and sole (Table 6.4.5.4) in 2008 were very low, less than 0.5 t of each species across all unregulated gears. Similar low values have been observed across the majority of gear groups in recent years. That said, previous annual dredge landings of plaice and sole have been higher, 2-4 t. with the exception of dredges, the unregulated gears show no consistency in landings of cod, plaice or sole.

Table 6.4.5.1. Irish Sea trends in unregulated effort (kW*days at sea), according to Annex 1 of Con. Reg. 1342/2008, by major gear type, 2000-2008.

GEAR	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
BEAM	ENG	13,534	17,018	7,906	7,360	1,966	25,324	8,221	8,992	26,350
BEAM	IRL	792,416	652,385	772,223	23,853	159,015				
BEAM	NIR									3,639
DEM_SEINE	ENG							142		
DEM_SEINE	IRL	23,180	27,798	26,993		759				
DREDGE	BEL									51,749
DREDGE	ENG	266,534	289,651	276,745	225,232	197,412	196,296	313,285	239,832	265,794
DREDGE	GBJ	47,760		8,192	2,968					
DREDGE	IOM	11,127	7,319	7,378	8,573	5,387	5,194	9,987	13,983	17,732
DREDGE	IRL	327,890	266,554	275,994	361,082	342,029	170,130	148,109	222,215	163,639
DREDGE	NED							525	4,725	54,075
DREDGE	NIR	153,565	212,033	120,708	135,202	137,511	111,692	99,662	118,382	145,049
DREDGE	SCO	654,669	856,495	802,542	894,237	724,139	777,598	572,146	905,327	1,226,238
none	FRA								5,946	
none	IRL		709							96
none	SCO						2,130			
OTTER	BEL		6,808		528					
OTTER	ENG	246		342	62	76	1,416	112	820	
OTTER	IRL	1,988,191	1,768,311	1,767,545	25,238	99,895	4,109	3,940		
OTTER	NED	3,960		4,412						
OTTER	NIR				696		179	4,022		
OTTER	SCO				5,792	966		414		
PEL_SEINE	IRL				560	5,872				
PEL_SEINE	NIR	20,940	22,729	29,223	45,458	19,482	61,552	34,310		
PEL_TRAWL	ENG			23,040	12,729		7,200			
PEL_TRAWL	IRL	112,207	107,654	31,338	37,622	129,021	114,757	45,752	24,970	3,963
PEL_TRAWL	NED		7,428			14,520	12,797			
PEL_TRAWL	NIR	54,243	34,578	55,670	87,890	65,982	45,646	91,176	140,424	104,430
PEL_TRAWL	SCO		95,622	1,033			14,700			
POTS	ENG	69,866	111,192	276,786	403,052	346,751	366,190	368,671	341,096	213,279
POTS	GBG									397
POTS	GBJ	65,272	33,456	64,644	71,212	76,378	17,726	11,996	35,952	53,928
POTS	IOM			186	1,581	1,395		328		30,176
POTS	IRL	28,797	40,841	38,315	70,717	75,874	108,311	135,055	187,743	204,574
POTS	NIR	67,980	62,919	30,468	34,180	31,093	26,230	43,426	42,170	97,635
POTS	SCO	49,070	51,694	2,047	1,565		12,627	31,257	35,190	34,284
Total		4,751,447	4,673,194	4,623,730	2,457,389	2,435,523	2,081,804	1,922,536	2,327,767	2,697,027

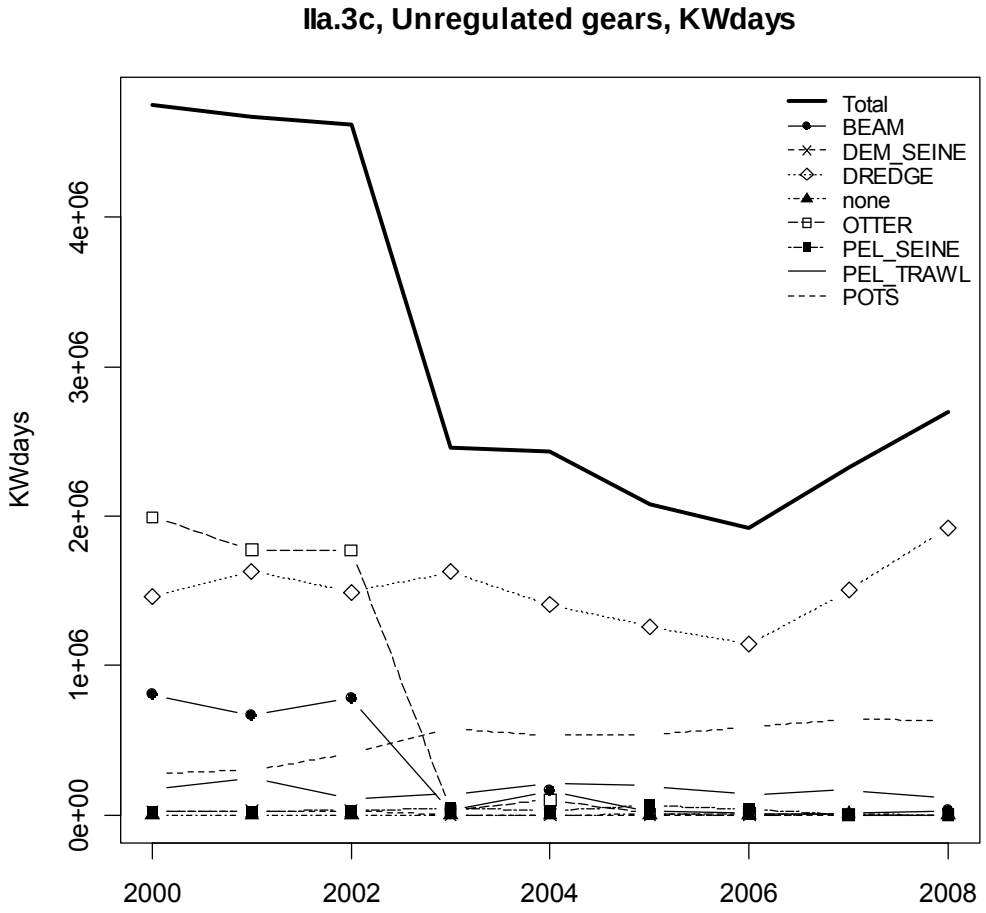


Figure 6.4.5.1. Irish Sea. Effort composition in kW*Days at sea for unregulated gears according to Coun. Reg. 1342/2008 (category none), 2000-2008.

Table. 6.4.5.2. Irish Sea. Unregulated gear (category none) associated with Coun. Reg. 1342/2008 cod catch composition by gear type, 2000-2008.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
IIa	3c	COD	BEAM	0.55		6.69								0.00	
IIa	3c	COD	DREDGE	0.54		1.17		0.13		0.04					
IIa	3c	COD	OTTER	4.96		8.65	0.08			0.17					
IIa	3c	COD	PEL_SEINE	0.14		1.10									
IIa	3c	COD	PEL_TRAWL	2.32		1.49						0.10			
IIa	3c	COD	POTS	0.81		3.40	0.18	0.22		0.25		0.11		0.03	

Table. 6.4.5.3. Irish Sea. Unregulated gear (category none) associated with Coun. Reg. 1342/2008 plaice catch composition by gear type, 2003-2008.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
IIa	3c	PLE	BEAM	5.32		28.52									
IIa	3c	PLE	DEM_SEINE			0.10									
IIa	3c	PLE	DREDGE	1.10		3.97		3.33		0.73		0.21		0.01	
IIa	3c	PLE	none											0.03	
IIa	3c	PLE	OTTER	5.23		4.71	0.51	0.59		0.42		0.48			
IIa	3c	PLE	PEL_SEINE			0.25									
IIa	3c	PLE	PEL_TRAWL			5.57						0.09			
IIa	3c	PLE	POTS	0.98		1.45	2.01	0.04						0.24	

Table. 6.4.5.4. Irish Sea. Unregulated gear (category none) associated with Coun. Reg. 1342/2008 sole catch composition by gear type, 2003-2008.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
IIa	3c	SOL	BEAM	1.73		7.55									
IIa	3c	SOL	DREDGE	3.82		1.88		4.09		2.08		3.69		0.49	
IIa	3c	SOL	none											0.01	
IIa	3c	SOL	OTTER	0.59		0.24		0.03		0.00		0.01			
IIa	3c	SOL	PEL_TRAWL			0.09						0.04			
IIa	3c	SOL	POTS	0.15								0.00		0.00	

6.4.6. Vessels <10m in Irish Sea

Table 6.4.6.1 provides landings data for vessels under 10m, including data from England, Ireland, and Scotland, for the main species caught. Irish under 10 meter vessel landings are not recorded by gear type, therefore falling in to the “none” category. The under 10m vessels in the Irish Sea land Nephrops in the greatest quantity, totalling between 100 t and 400 t, primarily by otter trawlers, and is showing an increasing trend. Landings of cod and sole were also low, primarily landed by the England and Northern Ireland. Plaice landings by this fleet segment however were far higher, 73 t, also primarily landed by England. Landings in 2003 and 2004 were higher and more diverse than in recent years where landings are rarely shown to be above 10 t.

Overall, contribution of the under 10 meter segment to cod and sole is low, relative to total Irish Sea landings (~2% or less). Landings of Nephrops account for 2-5%. Plaice landings by this segment account for 13% of total plaice landings within the Irish Sea.

Table 6.4.6.1. Landings of under 10m vessels by species, gear and nation, 2003-2008.

SPECIES	GEAR	COUNTRY	2003	2004	2005	2006	2007	2008
ANF	BEAM	ENG		0.0	0.0	0.0		
ANF	DREDGE	ENG						0.0
ANF	DREDGE	NIR						0.0
ANF	GILL	ENG	0.1	0.1	0.0		0.0	0.0
ANF	none	IRL		17.9			0.1	
ANF	OTTER	ENG	0.1	0.0	0.0	0.3	0.2	0.3
ANF	OTTER	IOM						0.0
ANF	OTTER	NIR	2.4	4.5	2.8	6.2	1.2	4.0
ANF	POTS	NIR				0.0		
COD	BEAM	ENG	0.0	0.0	0.3	0.1	0.0	0.0
COD	GILL	ENG	0.0		2.2	2.3	1.5	0.9
COD	GILL	NIR					0.0	
COD	GILL	SCO		0.0				
COD	LONGLINE	ENG						0.0
COD	NONE	ENG					0.0	
COD	none	IRL	92.0	62.4			3.5	0.7
COD	OTTER	ENG	2.9	2.4	1.6	3.4	3.8	1.0
COD	OTTER	NIR	1.1	2.7	1.9	2.8	1.4	2.5
COD	OTTER	SCO	0.0					
COD	POTS	NIR				0.0		
HAD	BEAM	ENG		0.0				
HAD	none	IRL	15.0	63.5			0.4	0.2
HAD	OTTER	ENG	0.0	0.0	0.0			
HAD	OTTER	NIR	0.8	1.4	0.4	2.4	1.1	1.5
HKE	BEAM	ENG		0.0				
HKE	GILL	NIR				0.1	0.0	
HKE	none	IRL	36.0	24.3				0.0
HKE	OTTER	ENG				0.0		0.0
HKE	OTTER	NIR	0.2	0.4	0.3	0.9	0.4	0.5
HKE	POTS	NIR				0.0		
MAC	BEAM	ENG				0.1	0.0	0.0
MAC	DREDGE	NIR						0.0
MAC	GILL	ENG				0.0	0.3	0.2
MAC	GILL	NIR						0.2
MAC	LONGLINE	ENG					0.2	0.0
MAC	LONGLINE	NIR				5.4	4.6	3.2
MAC	none	IRL	80.0	81.3		74.0		
MAC	OTTER	ENG				0.1	0.0	0.1
MAC	OTTER	NIR				0.4	0.2	0.1
MAC	POTS	NIR				2.8	10.7	5.2
MAC	POTS	SCO						0.1
NEP	DREDGE	SCO				0.1		
NEP	GILL	ENG					0.1	
NEP	none	IRL		18.2			1.3	
NEP	OTTER	ENG	7.1	11.1	15.8	13.1	35.9	23.4
NEP	OTTER	IOM						0.1
NEP	OTTER	NIR	111.1	204.0	227.1	360.3	215.3	302.2
NEP	OTTER	SCO	0.6	3.9	3.2	9.5	1.0	1.8
NEP	PEL_SEINE	NIR						0.3
NEP	POTS	ENG				0.6	0.3	0.2
NEP	POTS	NIR	0.8	0.8	3.6	12.1	13.1	14.3
NEP	POTS	SCO		0.0		0.2	0.2	0.1
PEN	OTTER	SCO						0.3
PEN	POTS	SCO						0.1
PLE	BEAM	ENG	0.0	0.1	14.9	16.4	2.7	2.1
PLE	DREDGE	ENG						0.0
PLE	GILL	ENG	0.3	2.2	2.9	1.1	5.9	1.5
PLE	GILL	SCO		0.0			0.0	
PLE	LONGLINE	ENG						0.0
PLE	NONE	ENG						0.2
PLE	none	IRL	8.1	10.7			0.3	0.1
PLE	OTTER	ENG	49.5	39.4	70.7	54.6	93.0	62.6
PLE	OTTER	IOM						0.9
PLE	OTTER	NIR	0.4	0.4	0.7	3.1	3.2	5.3
PLE	OTTER	SCO	0.1					
PLE	POTS	ENG					0.0	
PLE	POTS	SCO			0.0		0.0	

Table 6.4.6.1. Continued

SPECIES	GEAR	COUNTRY	2003	2004	2005	2006	2007	2008
POK	GILL	ENG			0.0	0.0	0.0	
POK	GILL	NIR					0.0	
POK	none	IRL	6.0	16.4			0.4	0.1
POK	OTTER	NIR		0.1				
POK	POTS	NIR				0.0		
RAJ	none	IRL	50.9	35.2			2.3	27.6
SOL	BEAM	ENG	0.8	1.1	7.8	9.0	0.7	0.7
SOL	DREDGE	ENG						0.0
SOL	GILL	ENG	0.0	0.0	0.0	0.0	0.9	0.6
SOL	GILL	NIR				0.0		
SOL	NONE	ENG						0.0
SOL	none	IRL	5.1	2.1			0.1	
SOL	OTTER	ENG	2.7	0.7	1.0	1.3	4.5	2.6
SOL	OTTER	IOM						0.0
SOL	OTTER	NIR	0.1	0.6	0.1	1.0	0.4	1.1
SOL	OTTER	SCO	0.0					
SOL	POTS	ENG					0.0	
SOL	POTS	SCO			0.0			0.0
WHG	BEAM	ENG		0.0	0.3	0.0		
WHG	none	IRL	11.2	15.3				0.1
WHG	OTTER	ENG	2.0	0.3	0.1	0.0	0.0	0.1
WHG	OTTER	NIR		0.1		0.2	0.2	2.8

6.4.7. Spatial distribution patterns of effective fishing effort of trawled gears

Spatial figures of effort for the Irish Sea concentrate on those categories identified as significant in terms of recorded effort and in terms of cod, plaice and sole catches. Figures use a common scale across years for a given gear group, but scales are unique to each category such that the colours assigned to statistical rectangles for gear group TR1 can not be compared directly to those assigned for TR2 say. Figures use a percentiles scale, i.e. the same number of data values found in each colour band is the same. This is after data values across all years have been combined for that category.

TR1: Effort within this category has been declining. Effort was previously spread across the whole Irish Sea. Over time, effort became focused along the western Irish Sea, running along the cost of Ireland. This effort has declined and the primary focus is now more north-westerly, with little or no effort to the east (Figure 6.4.7.1).

TR2: There has been little change in effort distribution of this gear group over time, focussing on the two main Nephrops grounds within the Irish Sea, one to the east and one to the west, roughly inline with the Isle of Man (Figure 6.4.7.2).

BT2: Effort was previously wide spread within this group, although less in the northern Irish Sea. Over time effort has declined and become more focused. Two focuses are now visible in 2008, one to the east above Wales, the other to the west, slightly lower (Figure 6.4.7.3).

GN1: The distribution of gillnet effort within the Irish Sea is changeable, with seemingly two main areas. The first, and currently more active of these areas, is within the southern Irish Sea, on the join to the Celtic Sea. The second area is to the north and east of the Isle of Man (Figure 6.4.7.4).

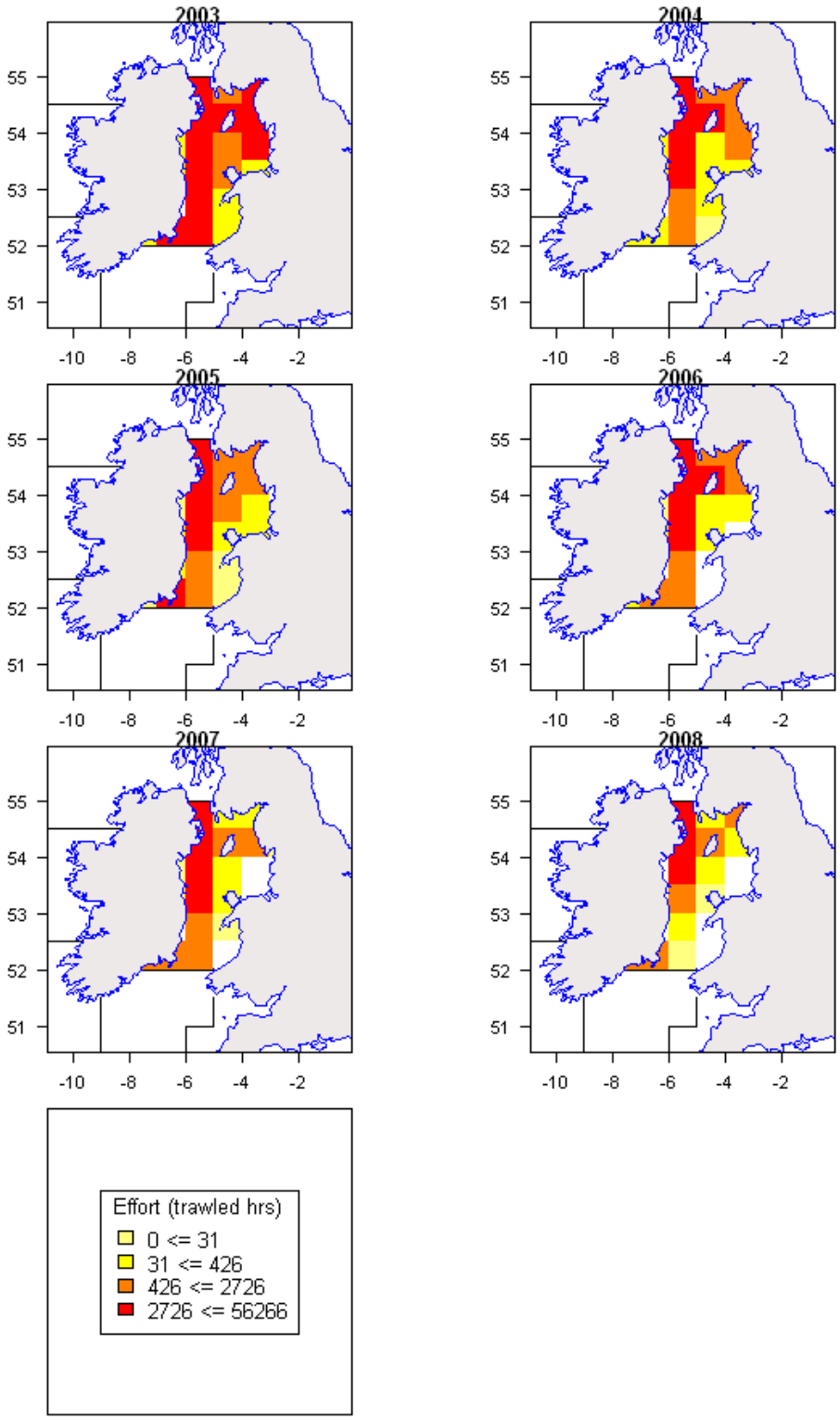


Figure 6.4.7.1. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for TR1, 2003-2008.

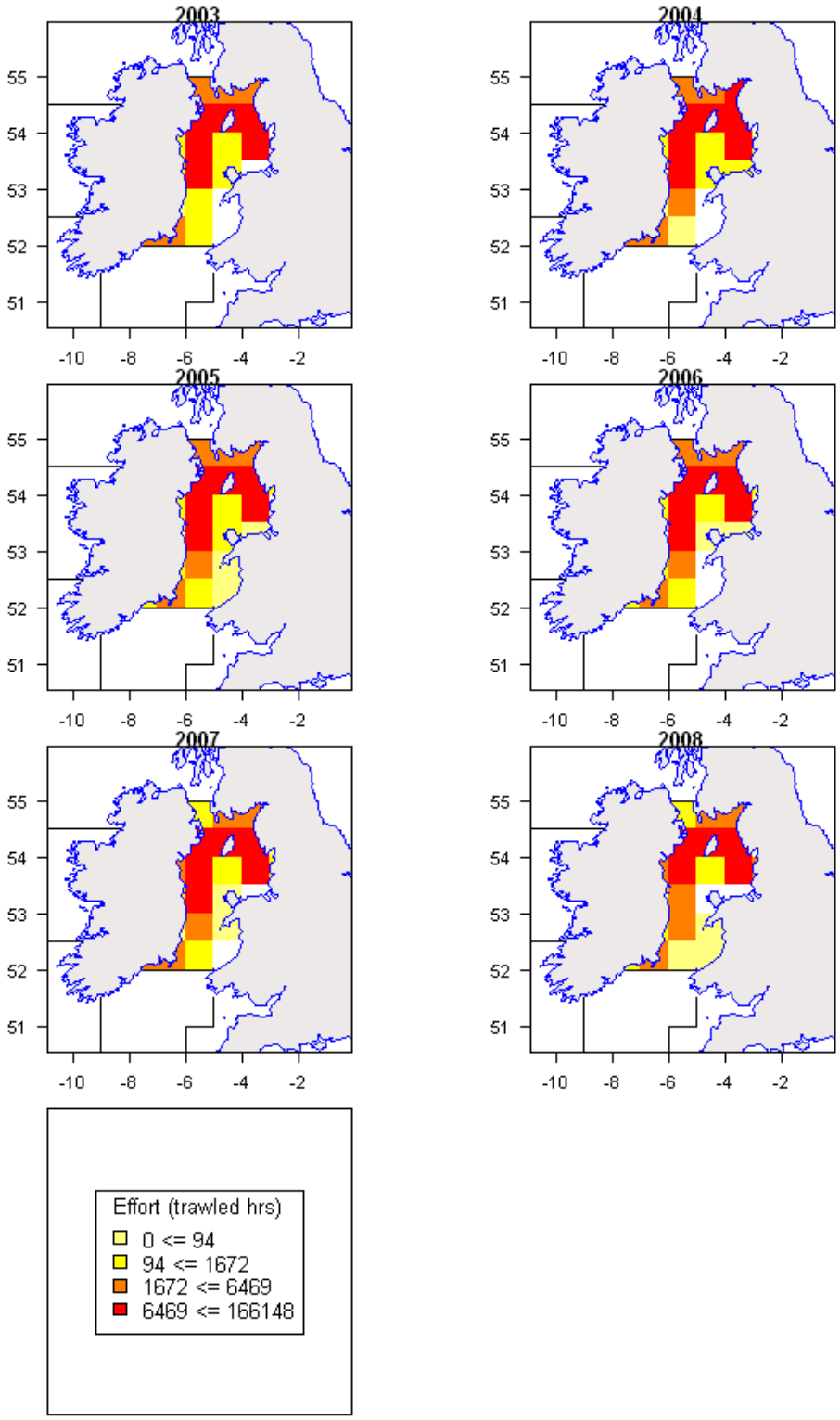


Figure 6.4.7.2. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for TR2, 2003-2008.

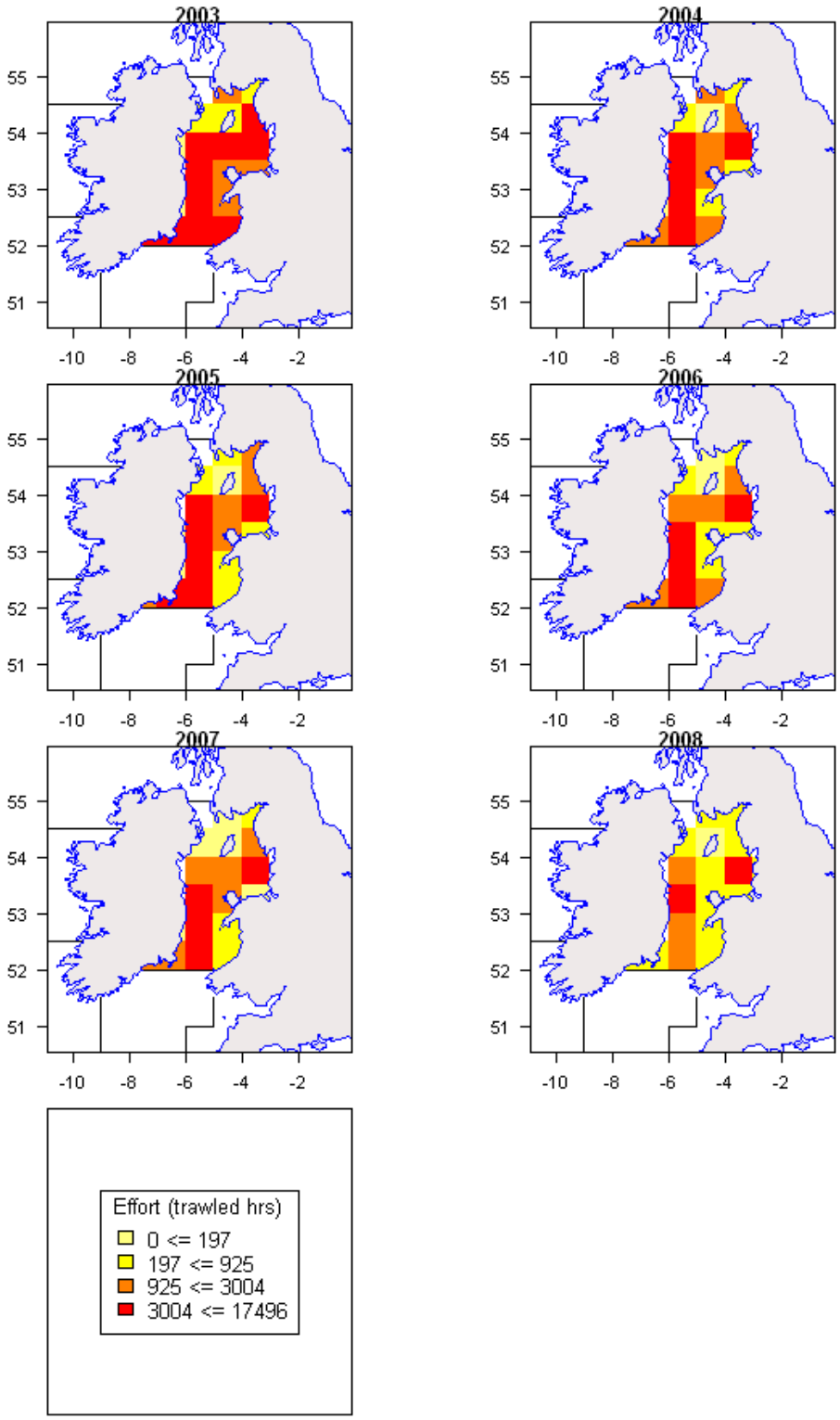


Figure 6.4.7.3. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for BT2, 2003-2008.

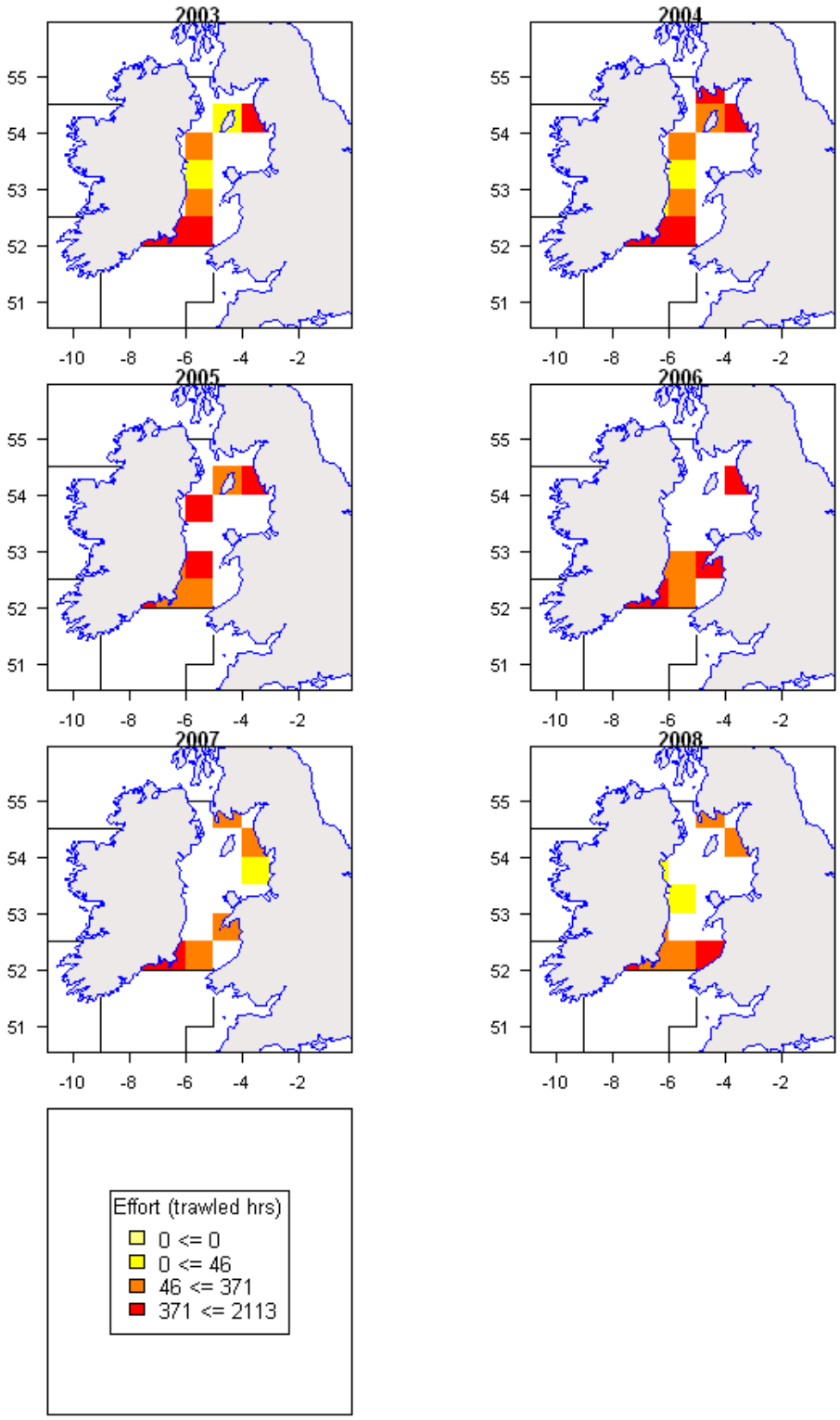


Figure 6.4.7.4. Irish Sea. Spatial distribution of effort (trawled hours) by ICES statistical rectangle for GN1, 2003-2008.

6.5. Management area 3d: West of Scotland

6.5.1. Trend in effort by derogation in management area 3d (previously2d): West of Scotland

Data quality: Irish vessels contribute to the effort total in management area 2d. According to the international data supplied this constitutes approximately 11-15% of overall effort in the region depending on year (see Tables 6.5.1.1 and 6.5.1.3). Irish data was not disaggregated by mesh size before 2003 and in all years Irish data is not split according to the special conditions under Coun. Reg. (EC) 40/2008. Spain has been allocated 2,460,000 kW*days for demersal fishing in ICES sub areas V and VI under the Western Waters regulation (Coun. Reg. (EC) 1415/2004). As no data has been supplied by Spain in relation to this subgroup it is not possible to know whether any activity was conducted in Division VIa.

Table 6.5.1.2 shows the percentage change in effort totals supplied by member states compared to data submitted in 2008. Some values from the UK(E, W, NI, IOM) have increased significantly proportionally, but in categories where the absolute amount of effort is small. The Netherlands has revised effort upwards in the none-none category from 2002 onwards. This revision is most significant for the year 2004. Note that with respect to Belgium data the effort calculated in last year's report as kw*fishing hours have been corrected to kW*days at sea according to the specifications in Council Regulation (EC) N° 43/2009.

According to the data provided by Member States in 2009 aggregated by categories in Coun. Reg. (EC) 43/2009 (cod plan) the fishery West of Scotland is primarily an otter trawl fishery; beam trawls and static gears are hardly used. Long line effort, however, has become more significant since 2005. In terms of kWdays the overall nominal effort in ICES division VIa displays a decrease of 29% since 2002. Overall effort has followed a continuous downward trend (with the exception of 2004) which had already started by 2001. Trawl and seine gears (TR gears under Coun. Reg. (EC) 43/2009; 4a gears under Coun. Reg. (EC) 40/2008) effort increased slightly from 2006 to 2007 but has fallen to its lowest level in the time series in 2008. Long line effort (LL1; 4e) increased considerably between 2004 and 2006. The level of effort has reduced back to the same level found in 2005 but it remains the only non-trawl gear with any significant effort in this area, (Table 6.5.1.4 and Figures 6.5.1.1 and 6.5.1.3).

Within the trawl gear categories it can be seen from Figure 6.5.1.2 that effort is only significant in the categories TR1 and TR2. There is a clear contrast in effort trend between these two categories; effort using TR1 gears declined markedly between 2001 and 2006 and the trend is still one of (more gradual) decline, (if this category is split according to the mesh sizes specified under Coun. Reg. 40/2008 a contrast in effort trends is clear - see below). Effort for TR2 gears is higher in 2008 compared to 2002 and has remained stable since 2005. The increase in effort recorded for TR2 gears between 2002 and 2003 can be attributed to Irish effort being recorded by mesh size from 2003.

Effort which could not be assigned to any existing derogation (none) has fallen by 31% in 2008 compared to 2002 (Table 6.5.1.5). This is partly explained by the fact Irish effort data prior to 2003 contained no information on mesh size. Trawls with mesh 70-89mm are thought to be the main gears in use by the Irish fleet prior to 2003 and from Figure 6.5.1.4 it can be seen that recorded effort in this mesh size range increases in 2003 and is mainly recorded as extra effort in the 4.a.ii.none category (Table 6.5.1.1). Unidentified effort also

comprises mesh size groups 32-54mm and 55-69mm targeting pelagic resources. The fall in unregulated effort is not as large as recorded in previous years because of upward revisions for this category from the Netherlands from 2004 onwards.

To understand better the difference in effort trends between mesh size ranges within the trawl gears, Figure 6.5.1.5 A-D shows nominal effort by special condition for each mesh size range within the trawl and seine gear type as defined under Coun. Reg. 40/2008, (there is no figure for mesh range 16-32mm as all effort is in the no special condition category). Overall effort reported in the small meshed trawls (gear group 4.a.ii, 70-89mm) is recorded as declining by 10% between 2002 and 2008 (Figure 6.5.1.5 A). The actual decrease in effort could be considerably larger, however, because of the Irish fleet effort with undeclared mesh size prior to 2003. As mentioned above effort in this mesh size range increased significantly in 2003 (the first year Irish effort data is disaggregated by mesh size). Transfer of effort from the 100-119mm trawl gear group is also possible. Figure 6.5.1.5A shows effort recorded for vessels qualifying for special condition IIA8.1.d greater than effort recorded for vessels not qualifying for special condition. Irish effort assigned to this mesh size range from 2003 was primarily assigned to 4.a.ii none. Effort in category IIA8.1.d has declined since 2003 but remained stable in category 4.a.ii none. Reported effort in the gear group 90-99mm rose from very low levels to nearly 1 million kW*days in 2003 and while variable since is at the 1 million kW*days level again in 2008 (Table 6.5.1.4 and Figure 6.5.1.5 B). Only a small proportion of this increase can be attributed to Irish effort reporting including mesh size from 2003. The increase is mainly transfer of effort from other mesh sizes by Scottish vessels. The contribution of this gear group to the overall effort in Division VIa is relatively minor however.

Historically, the highest effort was deployed by otter trawls of 100-119mm (gear group 4.a.iv, Table 6.5.1.4 Figure 6.5.1.4 & Figure 6.5.1.5 C). Effort since 2002 has decreased substantially in the three derogations of this gear group, by 75% for vessels not qualifying for special condition, 79% for vessels with low catch of cod, plaice and sole (special condition IIA8.1.d) and 81% for vessels with low catch of cod only (IIA8.1.c), although Figure 6.5.1.5 C shows that this last derogation is only a minor component of the effort in this mesh size range. Some of the reduction in 4.a.iv effort might be explained by a switch to mesh >120mm, (gear group 4.a.v). Since 2004 there has been a slow rate of decrease in effort in the derogation 4.a.iv IIA81d while effort in 4.a.iv none has been steady over this period. Effort in the gear group 4.a.v (mesh ≥120mm) is mostly conducted by vessels not qualifying for special conditions and effort in 2008 for this derogation is 13% less than the effort recorded in 2002 (Table 6.5.1.4 and Figures 6.5.1.4 and 6.5.1.5 D). Figure 6.5.1.5 D however shows how effort in this derogation rose sharply between 2001 and 2003 but has since fallen significantly in all subsequent years.

Tables showing effort in terms of gross tonnage days at sea (GT*days at sea) and number of vessels by derogation are not presented in this report but are available on the JRC website:

https://stecf.jrc.ec.europa.eu/meetings/2009?p_p_id=62_INSTANCE_ujGU&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_ujGU_struts_action=%2Fjournal_articles%2Fview&_62_INSTANCE_ujGU_groupId=1416&_62_INSTANCE_ujGU_articleId=132840&_62_INSTANCE_ujGU_version=1.0. To record an annual number of vessels the maximum number from any of the four quarters within the year is chosen. Because vessels are not necessarily assigned exclusively to a single derogation, some multiple counting may occur if summing across derogations. Also on the web the three measures of effort are

compared using plots where values for each are standardised against values for 2003. In cases where all three standardised curves follow the same pattern it suggests changes in kW*days and GT*days are being driven by changes in the number of vessels. If the lines diverge it suggests changes in the average effort levels of vessels in a fleet and/or changes in the physical characteristics of vessels.

Table 6.5.1.1 West of Scotland. Trend in nominal effort (kW*days at sea) by derogations existing in Table 1 of Annex IIA of Coun. Reg. 40/2008 and Member State, 2000-2008. Derogations are sorted by gear, special condition (SPECON) and country.

REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
4ai	none	IRL				12589	41782	10460	29820	20786	31296
		NIR	10336		2250	1250	317				
		SCO	201848	50818	57455	79107	36884	52924		256	
		DEN	46920	47565	141884	156828	91088		16641		
4aii	IIA83c	SCO	4522	4484	211						
	IIA83d	FRA	735		6168	21739	19454			442	110846
		SCO	4232781	4273847	4428804	4664652	3894779	3395161	3114959	2912997	2794395
	none	BEL							989	795	
		ENG	28366	11547	29457	87247	40792	39072	34352	46047	68017
		FRA		5752		2802	5838	295		1584	
		IOM				181	1172	181	894		649
		IRL				856438	879011	719729	668030	407833	268686
		NIR	327602	352350	390966	279957	355671	347536	428077	683733	623015
		SCO	825216	616737	363295	421470	468699	570964	605359	781726	927519
4aiii	IIA83d	SCO		2268	4056	8832	6762	11316	34638	1518	5244
	none	ENG	3530	1007	6480	19614	25519	18273	29264	12677	19250
		IOM		562							
		IRL				182820	88574	47908	44710	27960	6782
		NIR	447	2000	272	190	4833	2733	25479	74525	29093
		SCO	5945	5826	186	681906	964991	608685	625927	1010951	1084857
		DEN				4417					
4aiv	IIA83c	SCO	50409	53968	109693	43865	37219	12311	22890	23749	20646
	IIA83d	FRA	8360604	7542724	6579866	5520978	4669526	5403490	4115794	4164302	3751888
		GER		7335	22560			6480	7290	4320	
		SCO	1755263	2457544	2237142	682691	744633	374966	293924	277227	281319
	none	ENG	717876	685858	322250	276552	91461	30355	17508	3032	8991
		FRA	141587	272191	194611	189838	74969	87233	84109	101114	54647
		GER	66862	37792		3528		6750	16707	15657	3060
		IOM	5070								
		IRL				386793	314313	319871	314595	517981	424007
		NIR	505079	367439	300806	338394	162967	81627	27267	13466	34058
		SCO	5696769	5979327	3799457	1067264	536974	189147	120118	205818	261366
		SPN						463855	461244	338402	346009
4av	IIA83c	SCO			894						
	IIA83d	FRA	1245725	1505017	1112368	1134394	1062059	863835	967887	848179	418180
		SCO			26740	261054	252353	245521	186112	175539	186757
	none	ENG	9996	19159	41743	42893	54453	55496	30961	5679	8029
		FRA	736	11299	2267	27988	15933	425	12077	568	
		GER			1020	15663	12530	34710	3900	3675	
		IRL				109817	2164		10741	17318	4606
		NIR						5564	2085	20143	4280
		SCO	14062	35184	1397148	3667752	2930976	1813436	1476628	1304151	1240054
4bi	none	BEL	27240	10308	5595	19005	15910	8027	3700	1732	
		ENG	2006	1550	861	1274	12067	1810			
		GBJ	1857								
		IRL					28827	5068	6335		
4biii	none	ENG	288								
		FRA		1227							
		SCO	97861	84675	103897						
4biv	none	SCO	4894			60296	151480	119958	81195	1803	

Table 6.5.1.1 (cont) West of Scotland. Trend in nominal effort (kW*days at sea) by derogations existing in Table 1 of Annex IIA of Coun. Reg. 40/2008 and Member State, 2000-2008. Derogations are sorted by gear, special condition (SPECON) and country.

REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
4ci	none	FRA			4619						
		IRL						128		2752	6294
		NIR									1215
		SCO		3620	595	2204	13540				574
4cii	none	ENG		112		19712					
		FRA	1091	21291	5893	3680	3656	38913	30948	132882	332604
		IRL				2907	2726	64	1594	9298	4528
		SCO	8564	5333	3670	1789				109	
		SPN								41481	27783
4ciii	none	ENG		35997	36673			46142			
		IRL				2529	1026		1360	512	561
		NIR									2349
		SCO		422	2586						
4civ	none	ENG	358510	378463	298956	452096	309423	154958	23028	36174	
		FRA	7809	124		20914		14523		9568	
		GER	37830	37059	5292	113084	79545	26780			37334
		IRL					11700		600	784	90
		SCO	4882	4821		42282	53373	38855		403	5142
4d	none	FRA	964	23552							
		IRL						5410	448		
		SCO	2265	1416		636	435				
4e	none	ENG	675637	671367	550463	370933	459841	317428	284497	325325	28103
		FRA	9607						68663	166933	187806
		IRL	3693	44550	9450	7200	18400	3000		9750	
		NIR	562					1574			
		SCO	73802	88275	181600	124695	148430	306947	371404	518887	378736
		SPN						1199005	1940809	1402274	1233718
none	none	ENG	563129	739599	724501	763289	597101	529340	1101891	1187425	746498
		FRA		10780	94208	24598	18022	25024	35328	38272	
		GBJ			10252						
		GER	666036	759653	590791	729409	767344	708461	1066842	1057879	700908
		IOM	23922	2541	8344	8144	13229	2722	9133	11285	35882
		IRL	4126741	3624480	4004124	3158368	3416897	2369513	2001094	1931242	1884058
		NED	3335277	4343285	3371770	2170705	6497392	5592136	4295071	4118663	3873076
		NIR	17165	24168	43990	55591	114769	144406	122363	204835	198144
		DEN	151351	78011	17486	57766	290878	157518	550921	135713	93959
Grand Total			34461269	35346279	31655665	29464609	30914707	27638019	25828200	25370131	22796908

Table 6.5.1.2 (cont) West of Scotland. Relative change in nominal effort (kW*days at sea) reported by Member State compared to the data submitted in 2008; by derogations existing in Table 1 of Annex IIA of Coun. Reg. 40/2008. Derogations are sorted by gear and special condition (SPECON).

REG	GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
4ai		none	IRL	0%	0%	0%	0%	0%	0%	-8%	-1%
4ai		none	NIR	151%	0%	33%	33%	0%	0%	0%	0%
4ai		none	SCO	4%	0%	0%	0%	1%	0%	0%	0%
4aii		IIA83c	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4aii		IIA83d	FRA	-50%		-45%	-20%	-17%	0%	0%	-50%
4aii		IIA83d	SCO	3%	2%	2%	1%	0%	0%	0%	0%
4aii		none	ENG	109%	-3%	0%	80%	41%	41%	83%	122%
4aii		none	FRA		-19%	0%	-70%	0%	0%	0%	0%
4aii		none	IOM	0%	0%	0%	0%	23340%	0%	0%	0%
4aii		none	IRL	0%	0%	0%	-1%	-2%	-2%	-2%	1%
4aii		none	NIR	261%	903%	1429%	1873%	342%	281%	226%	127%
4aii		none	SCO	-2%	-2%	-1%	0%	0%	0%	0%	0%
4aiii		IIA83d	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4aiii		none	ENG	0%	0%	0%	0%	206%	133%	65%	1227%
4aiii		none	IRL	0%	0%	0%	-6%	5%	11%	12%	15%
4aiii		none	NIR	0%	0%	0%	0%	69%	0%	10%	26%
4aiii		none	SCO	218%	0%	-57%	0%	0%	0%	0%	0%
4aiv		IIA83c	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4aiv		IIA83d	FRA	-2%	7%	7%	25%	32%	22%	20%	28%
4aiv		IIA83d	GER	0%	0%	3%	0%	0%	200%	1%	50%
4aiv		IIA83d	SCO	1%	1%	1%	1%	0%	0%	0%	0%
4aiv		none	ENG	51%	68%	40%	243%	62%	10%	0%	0%
4aiv		none	FRA	-78%	-79%	-81%	-84%	-92%	-85%	-81%	-74%
4aiv		none	GER	11%	0%	0%	0%	0%	43%	39%	28%
4aiv		none	IOM	13%	0%	0%	0%	0%	0%	0%	0%
4aiv		none	IRL	0%	0%	0%	1%	2%	-7%	0%	-5%
4aiv		none	NIR	106%	171%	135%	106%	77%	77%	122%	83%
4aiv		none	SCO	2%	3%	2%	1%	2%	0%	0%	0%
4av		IIA83c	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4av		IIA83d	FRA	2101%	2824%	3034%	3293%	2601%	676%	9663%	58034%
4av		IIA83d	SCO	0%	0%	3%	5%	2%	1%	0%	0%
4av		none	ENG	268%	87%	115%	98%	302%	516%	91%	0%
4av		none	FRA	0%	284%	120%	54%	0%	0%	118%	0%
4av		none	GER	0%	0%	0%	0%	-72%	26%	53%	150%
4av		none	IRL	0%	0%	0%	13%	-52%	0%	-3%	-18%
4av		none	NIR	0%	0%	0%	0%	0%	0%	56%	0%
4av		none	SCO	0%	5%	1%	2%	5%	1%	1%	0%
4bi		none	BEL	23%	331%	0%	39%	44%	67%	40%	38%
4bi		none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
4bi		none	GBJ	0%	0%	0%	0%	0%	0%	0%	0%
4bi		none	IRL	0%	0%	0%	0%	94%	0%	-5%	0%
4biii		none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
4biii		none	FRA	0%	-17%	0%	0%	0%	0%	0%	0%
4biii		none	SCO	0%	2%	0%	0%	0%	0%	0%	0%
4biv		none	SCO	0%	0%	0%	1%	0%	0%	0%	0%

Table 6.5.1.2 (cont) West of Scotland. Relative change in nominal effort (kW*days at sea) reported by Member State compared to the data submitted in 2008; by derogations existing in Table 1 of Annex IIA of Coun. Reg. 40/2008. Derogations are sorted by gear and special condition (SPECON).

4ci	none	FRA	0%	0%	-76%	0%	0%	0%	0%	0%
4ci	none	IRL	0%	0%	0%	0%	0%	0%	0%	0%
4ci	none	SCO	0%	0%	0%	0%	-1%	0%	0%	0%
4cii	none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
4cii	none	FRA	-90%	-48%	-73%	-52%	-15%	-13%	-23%	-18%
4cii	none	IRL	0%	0%	0%	-3%	-26%	0%	-12%	-16%
4cii	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4ciii	none	ENG	0%	0%	-9%	0%	0%	3%	0%	0%
4ciii	none	IRL	0%	0%	0%	0%	0%	0%	-7%	0%
4ciii	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
4civ	none	ENG	64%	160%	41%	56%	52%	36%	51%	0%
4civ	none	FRA	-16%	-100%	0%	-62%		-66%		-78%
4civ	none	GER	32%	20%	-29%	11%	1%	-4%	0%	0%
4civ	none	IRL	0%	0%	0%	0%	1%	0%	0%	-8%
4civ	none	SCO	5%	0%	0%	0%	-1%	-9%	0%	0%
4d	none	FRA	-15%	0%	0%	0%	0%	0%	0%	0%
4d	none	SCO	51%	0%	0%	0%	36%	0%	0%	0%
4e	none	ENG	62%	56%	85%	65%	52%	29%	30%	13%
4e	none	FRA	-80%	0%	0%	0%	0%	0%	-58%	-65%
4e	none	IRL	0%	4%	5%	26%	-2%	-1%	0%	0%
4e	none	NIR	0%	0%	0%	0%	0%	0%	0%	0%
4e	none	SCO	0%	2%	5%	0%	0%	0%	0%	0%
none	none	ENG	7%	5%	9%	10%	3%	9%	3%	15%
none	none	FRA		-92%	-49%	-89%	-95%	-82%	-84%	-81%
none	none	GER	-9%	-3%	3%	18%	6%	15%	-6%	-1%
none	none	IOM	18302%	15781%	21858%	27047%	79%	142%	132%	0%
none	none	IRL	-4%	-1%	-2%	-5%	-4%	-2%	-4%	-4%
none	none	NED	0%	0%	65%	28%	80%	37%	31%	38%

Table 6.5.1.3 West of Scotland. Trend in nominal effort (kW*days at sea) by derogations existing in Appendix 1 of Annex IIA of Coun. Reg. 43/2009 and Member State, 2000-2008. Derogations are sorted by gear type and country.

ANNEX	REG AREA	REG GEAR	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
IIa	3d	BT1	SCO	4894			60296	151480	119958	81195	1803	
IIa	3d	BT2	BEL	27240	10308	5595	19005	15910	8027	3700	1732	
IIa	3d	BT2	ENG	2294	1550	861	1274	12067	1810			
IIa	3d	BT2	FRA		1227							
IIa	3d	BT2	GBJ	1857								
IIa	3d	BT2	IRL					28827	5068	6335		
IIa	3d	BT2	SCO	97861	84675	103897						
IIa	3d	GN1	ENG	358510	414572	399429	471808	309423	201100	23028	36174	
IIa	3d	GN1	FRA	8900	21415	10512	24594	3656	53436	30948	142450	332604
IIa	3d	GN1	GER	37830	37059	5292	113084	79545	26780			37334
IIa	3d	GN1	IRL	3734	19636	8258	19967	20763	192	3554	13346	11473
IIa	3d	GN1	NIR									3564
IIa	3d	GN1	SCO	13446	14196	7097	47095	66913	38855	1044	553	6155
IIa	3d	GN1	SPN								41481	27783
IIa	3d	GT1	FRA	964	23552							
IIa	3d	GT1	IRL						5410	448		
IIa	3d	GT1	SCO	2265	1416		636	435				
IIa	3d	LL1	ENG	675637	671367	550463	370933	459841	317428	284497	325325	28103
IIa	3d	LL1	FRA	9607						68663	166933	187806
IIa	3d	LL1	IRL	3693	44550	9450	7200	18400	3000		9750	
IIa	3d	LL1	NIR	562					1574			
IIa	3d	LL1	SCO	73802	88275	181600	124695	148430	306947	371404	518887	378736
IIa	3d	LL1	SPN						1199005	1940809	1402274	1233718
IIa	3d	TR1	ENG	727872	705017	363993	319445	145914	85851	48469	8711	17020
IIa	3d	TR1	FRA	9748652	9331231	7889112	6873198	5822487	6354983	5179867	5114163	4224715
IIa	3d	TR1	GER	66862	45127	23580	19191	12530	47940	27897	23652	3060
IIa	3d	TR1	IOM	5070								
IIa	3d	TR1	IRL				496610	316477	319871	325336	535299	428613
IIa	3d	TR1	NIR	505079	367439	300806	338394	162967	87191	29352	33609	38338
IIa	3d	TR1	SCO	7516503	8526023	7571074	5722626	4502155	2635381	2099672	1986484	1990142
IIa	3d	TR1	SPN						463855	461244	338402	346009
IIa	3d	TR2	BEL							989	795	
IIa	3d	TR2	ENG	31896	12554	35937	106861	66311	57345	63616	58724	87267
IIa	3d	TR2	FRA	735	5752	6168	24541	25292	295		2026	110846
IIa	3d	TR2	IOM		562		181	1172	181	894		649
IIa	3d	TR2	IRL				1039258	967585	767637	712740	435793	275468
IIa	3d	TR2	NIR	328049	354350	391238	280147	360504	350269	453556	758258	652108
IIa	3d	TR2	SCO	5068464	4903162	4796552	5776860	5335231	4586126	4380883	4707192	4812015
IIa	3d	TR2	DEN				4417					
IIa	3d	TR3	DEN	46920	47565	141884	156828	91088		16641		
Total of regulated gears				25369198	25732580	22802798	22419144	19125403	18045515	16616781	16663816	15233526
IIa	3d	none	ENG	563129	739599	660701	763289	597101	529340	1101891	1187425	746498
IIa	3d	none	FRA		10780	94208	24598	18022	25024	35328	38272	
IIa	3d	none	GBJ			10252						
IIa	3d	none	GER	666036	759653	590791	729409	767344	708461	1066842	1057879	700908
IIa	3d	none	IOM	23922	2541	8344	8144	13229	2722	9133	11285	35882
IIa	3d	none	IRL	4123007	3604844	3995866	3143837	3411586	2369513	2001094	1931242	1884058
IIa	3d	none	NED	3335277	4343285	3371770	2170705	6497392	5592136	4295071	4118663	3873076
IIa	3d	none	NIR	256764	305302	540898	452956	701268	496663	477614	584492	420274
IIa	3d	none	SCO	6813669	7473475	8501744	8839268	9380182	8196908	5548926	4977321	4668996
IIa	3d	none	DEN	151351	78011	17486	57766	290878	157518	550921	135713	93959
Total of unregulated gears				15933155	17317490	17792060	16189972	21677002	18078285	15086820	14042292	12423651
Grand total				41302353	43050070	40594858	38609116	40802405	36123800	31703601	30706108	27657177

Table 6.5.1.4 West of Scotland. Trend in nominal effort (kW*days at sea) by derogation as defined by Coun. Reg. 40/2008, 2000-2008.

ANNEX	REG AREA	REG GEAR	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008	Rel.Change.to.02
IIa	2d	4ai	none	259104	98383	201589	249774	170071	63384	46461	21042	31296	-0.84
IIa	2d	4aii	IIA83c	4522	4484	211							-1.00
IIa	2d	4aii	IIA83d	4233516	4273847	4434972	4686391	3914233	3395161	3114959	2913439	2905241	-0.34
IIa	2d	4aii	none	1181184	986386	783718	1648095	1751183	1677777	1737701	1921718	1887886	1.41
IIa	2d	4aiii	IIA83d		2268	4056	8832	6762	11316	34638	1518	5244	0.29
IIa	2d	4aiii	none	9922	9395	6938	888947	1083917	677599	725380	1126113	1139982	163.31
IIa	2d	4aiv	IIA83c	50409	53968	109693	43865	37219	12311	22890	23749	20646	-0.81
IIa	2d	4aiv	IIA83d	10115867	10007603	8839568	6203669	5414159	5784936	4417008	4445849	4033207	-0.54
IIa	2d	4aiv	none	7133243	7342607	4617124	2262369	1180684	1178838	1041548	1195470	1132138	-0.75
IIa	2d	4av	IIA83c			894							-1.00
IIa	2d	4av	IIA83d	1245725	1505017	1139108	1395448	1314412	1109356	1153999	1023718	604937	-0.47
IIa	2d	4av	none	24794	65642	1442178	3864113	3016056	1909631	1536392	1351534	1256969	-0.13
IIa	2d	4bi	none	31103	11858	6456	20279	56804	14905	10035	1732		-1.00
IIa	2d	4biii	none	98149	85902	103897							-1.00
IIa	2d	4biv	none	4894			60296	151480	119958	81195	1803		NA
IIa	2d	4ci	none		3620	5214	2204	13540	128		2752	8083	0.55
IIa	2d	4cii	none	9655	26736	9563	28088	6382	38977	32542	183770	364915	37.16
IIa	2d	4ciii	none		36419	39259	2529	1026	46142	1360	512	2910	-0.93
IIa	2d	4civ	none	409031	420467	304248	628376	454041	235116	23628	46929	42566	-0.86
IIa	2d	4d	none	3229	24968		636	435	5410	448			NA
IIa	2d	4e	none	763301	804192	741513	502828	626671	1827954	2665373	2423169	1828363	1.47
IIa	2d	none	none	8883621	9582517	8865466	6967870	11715632	9529120	9182643	8685314	7532525	-0.15
Sum		Sum		34461269	35346279	31655665	29464609	30914707	27638019	25828200	25370131	22796908	-0.28

Table 6.5.1.5 West of Scotland. Trend in nominal effort (kW*days at sea) by derogation as defined by Coun. Reg. 43/2009, 2000-2008.

ANNEX	REG AREA	REG GEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008	Rel.Change.to.02
IIa	3d	BT1	4894			60296	151480	119958	81195	1803		NA
IIa	3d	BT2	129252	97760	110353	20279	56804	14905	10035	1732		-1.00
IIa	3d	GN1	422420	506878	430588	676548	480300	320363	58574	234004	418913	-0.03
IIa	3d	GT1	3229	24968		636	435	5410	448			NA
IIa	3d	LL1	763301	804192	741513	502828	626671	1827954	2665373	2423169	1828363	1.47
IIa	3d	TR1	18570038	18974837	16148565	13769464	10962530	9995072	8171837	8040320	7047897	-0.56
IIa	3d	TR2	5429144	5276380	5229895	7232265	6756095	5761853	5612678	5962788	5938353	0.14
IIa	3d	TR3	46920	47565	141884	156828	91088		16641			-1.00
IIa	3d	none	15933155	17317490	17792060	16189972	21677002	18078285	15086820	14042292	12423651	-0.30
Sum		Sum	41302353	43050070	40594858	38609116	40802405	36123800	31703601	30706108	27657177	-0.32

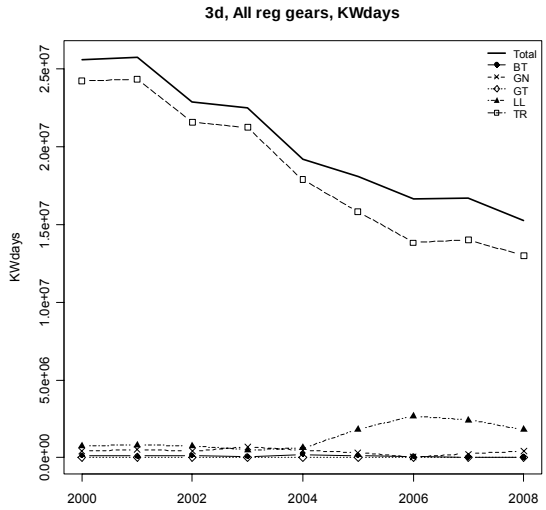


Figure 6.5.1.1 West of Scotland. Trend in nominal effort (kW*days at sea) by gear types as defined by Coun. Reg. 43/2009, 2000-2008.

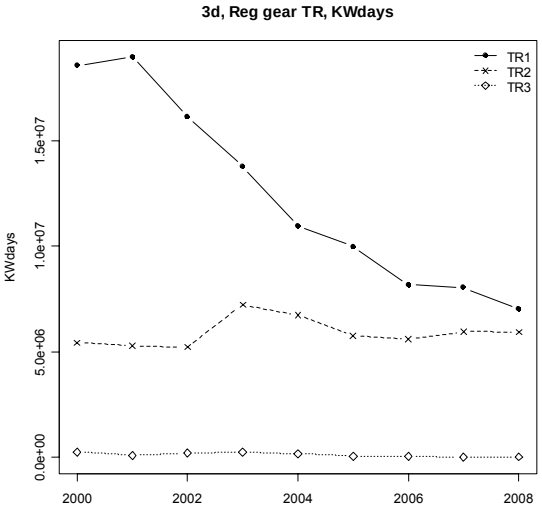


Figure 6.5.1.2 West of Scotland. Trend in nominal effort (kW*days at sea) by TR gear groups as defined by Coun. Reg. 43/2009, 2000-2008.

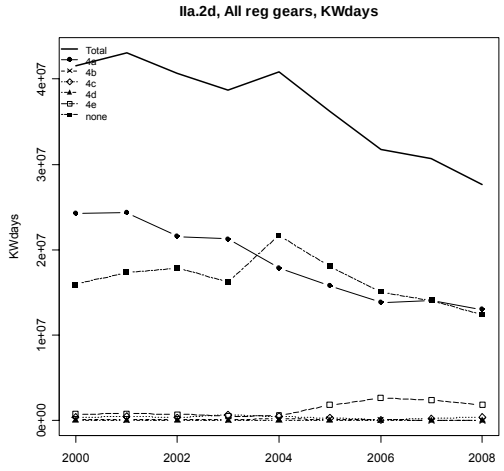


Figure 6.5.1.3 West of Scotland. Trend in nominal effort (kW*days at sea) by gear types as defined by Coun. Reg. 40/2008, 2000-2008.

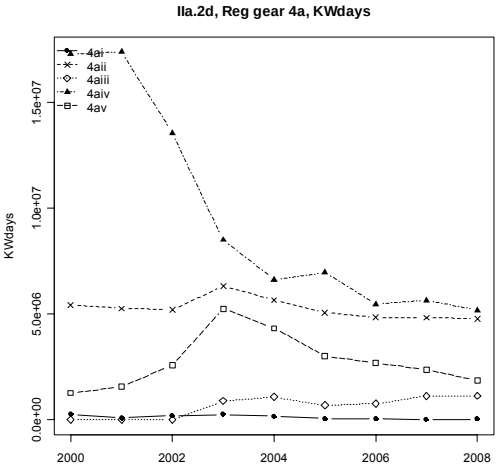
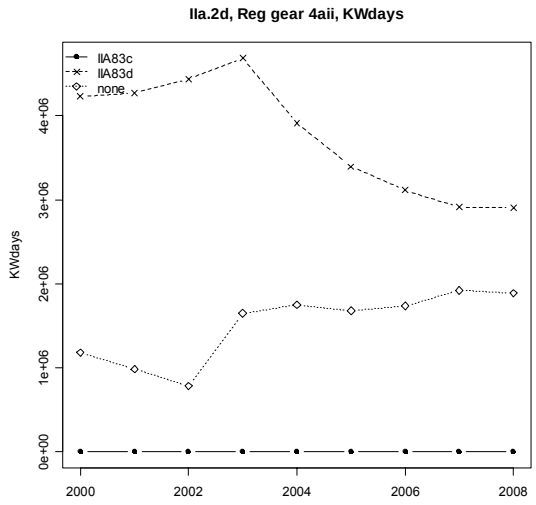
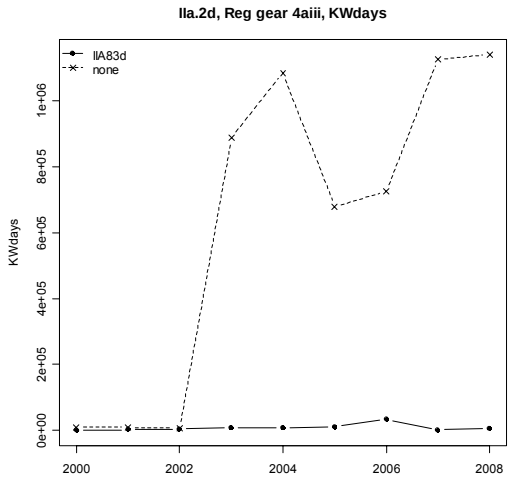


Figure 6.5.1.4 West of Scotland. Trend in nominal effort (kW*days at sea) by 4a gear groups, 2000-2008.

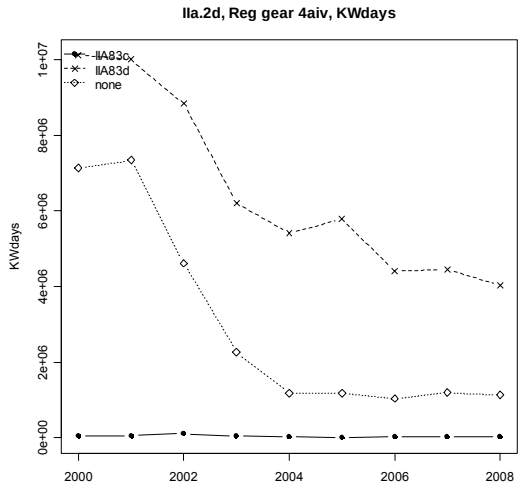
A



B



C



D

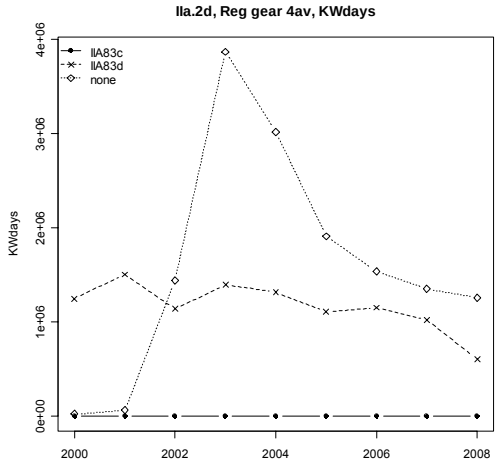


Figure 6.5.1.5 A-D West of Scotland. Trend in nominal effort (kW*days at sea) by 4a gear groups, 2000-2008; breakdown by special conditions as contained in Coun. Reg. 40/2008.

6.5.2. Trend in catch estimates in weight and numbers at age by derogation in management area 3d/2d: West of Scotland

Table 6.5.2.1 lists the landings and discards for the main species by derogations according to Coun. Reg. (EC) 43/2009. The data given in Table 6.3.5.1 forms the basis of Figure 6.3.5.1 displaying the relative catch compositions by derogations for the years 2003-2008. For brevity, the figures represent the landings and discards by derogation in weight not for all species caught but only for anglerfish (ANF), cod (COD), haddock (HAD), hake, (HKE), *Nephrops* (NEP), plaice (PLE), saithe (POK), sole (SOL), and whiting (WHG). Discard information on anglerfish, hake, *Nephrops* and also plaice and sole for non-trawl gears was not available for this report. The lack of the dark bars representing discards in these figures for those species indicates a lack of observations.

A description of the catch compositions of the derogations relevant to the area follows:-

TR1 -- The main species caught are haddock and saithe. Although representing considerably smaller tonnages than haddock and saithe, anglerfish are also important and the landings of hake have been steadily rising. The landings of both these two species now well exceed those of cod, the landings of the latter reflect the steady reduction in the cod TAC. Catch of cod are currently the highest in the series because of increased discards.

TR2 – Landings are dominated by *Nephrops*. Considering landings across all gear categories this species contributes the greatest contribution to landings among the demersal species. Bycatch of the finfish occur with historically high discard rates of haddock and whiting. Whiting catches have greatly reduced in the last two years however.

TR3 – Landings for this gear category are negligible for this region.

GN1 – This category lands anglerfish, hake and saithe. The landings of hake and saithe have increased rapidly since 2003 but the overall quantities are still small.

LL1 – The longline fishery lands hake almost exclusively. Landings are 3 to 4 times that from the gillnet fishery.

Unregulated (POTS) – Of those gears not regulated under Coun. Reg. (EC) 43/2009 the most significant landings of the species considered come from pots – in this case recordings of Nephrops (although the gear takes numerous other species).

The trawl gears (TR1 and TR2) are broken down into their derogations according to Coun. Reg. (EC) 40/2008 in Figure 6.5.2.2. It can be seen that when the TR2 category is broken down in to mesh ranges of 70-90mm (4.a.ii) and 90-100mm (4.a.iii) little difference is seen in catch composition. The SPECON IIA83d required a small proportion of cod in the landings in 2002. The greater proportion of Nephrops is caught by vessels that conformed to this requirement. Vessels with mesh size 100-119mm (4.a.iv) or ≥ 120mm (4.a.v) and not conforming with any SPECON have catch compositions that reflect the overall pattern for the TR1 grouping. Application of the same SPECON IIA83d to vessels with mesh size 100-119mm reveals vessels targeted on saithe.

It can be seen that landings of plaice and sole are negligible across all gear categories. The ToR request landings and discards at age by derogation of cod, plaice and sole. Because of the very small landings of plaice and sole west of Scotland it is only relevant to consider age specific data for cod for this region. Also only trawl gears catch enough cod to merit a catch at age analysis. A data processing error lead discard at age data in the

UK(Scottish) and UK(EWNI) to be rounded to whole kg rather than g which has caused some data to be rejected because of sum of product (SOP) discrepancies. Therefore age specific data requires to be treated with some caution.

From Figure 6.5.2.3 it can be seen that landings in the TR2 gear group are predominantly of fish at age two. For the larger TR1 mesh category landings are more evenly spread across ages two to four. In gear group TR2 discards exceed landings for fish at age one. Until 2005 discards were almost exclusively at ages one and two. Unfortunately data in 2006 was rejected because of the SOP problem but analysis performed last year showed noticeable discards at age 3 in the TR1 gear category. Last year's report also showed greatly increased catch and discarding of cod at age one across gear categories in 2006. This is considered evidence of a strong 2005 year class as is discards across gear categories of cod age two in 2007. In the TR1 gear category the majority of the catch of age two cod in 2007 and age three cod in 2008 was discarded. This is believed to be because restrictions in cod quotas prevent a greater proportion being landed.

The overall discard rate of cod (by weight) has increased in years subsequent to 2003 (Table 6.5.2.1). This was due initially to higher discard rates in the smaller meshed category (TR2). The rate of discarding reached 81% in 2007 for the TR2 gear (although in 2008 the discard rate is recorded at its lowest level since 2003). For the TR1 gear group the discard rate is at the highest level (74%) recorded in this series. As mentioned above it is believed the present high discard rates result from a combination of restrictive quotas and a strong 2005 year class of cod.

Table 6.5.2.1 West of Scotland. Landings (t), discards (t) and relative discard rates by species and derogation existing in Table 1 of Annex IIA of Coun. Reg. (EC) 43/2009, 2003-2008.

SPECIES	REG_GEAR	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
ALF	GN1																		
ALF	LL1										3								
ALF	TR1																		
ANF	BT1	1			14			3			1								
ANF	BT2																		
ANF	GN1	74			62			68			32			32			60		
ANF	GT1																		
ANF	LL1																		
ANF	TR1	797			842			1121			1126			1377			1503		
ANF	TR2	385			324			320			414			449			207		
ANF	TR3																1		
ANF	NONE	5			6			0			0			3			1		
ARU	TR1	81			16			34			3								
ARU	NONE	1			1209			180			213			195					
BLI	GN1	6						1			1								
BLI	LL1	1									13			11					
BLI	TR1	415			515			406			457			292			113		
BLI	TR2	1			1			1											
BSF	LL1																		
BSF	TR1	87			120			22			68			63			26		
BSF	TR2	10			1			2			1								
COD	BT1	2			6			1											
COD	BT2																		
COD	GN1	6			1			6			7			13			5		
COD	LL1	8			5			5			14			8					
COD	TR1	888	1		418	4	0.01	373			332	307	0.48	304	757	0.71	271	787	0.74
COD	TR2	214	10	0.04	85	47	0.36	45	32	0.42	35	138	0.8	64	267	0.81	47	2	0.04
COD	NONE	1			1			0			10			0			0		
CYO	GN1	417			460			97						1					
CYO	LL1	117			147			43			118			5					
CYO	TR1	611			148			22			30			72			37		
CYO	TR2	12			3			2			1								
CYP	GN1	50			7														
CYP	LL1	119			102			86			154			68					
CYP	TR1																		
CYP	NONE													9					
DCA	GN1				4														
DCA	LL1	1																	
ETR	LL1																14		
ETX	GN1																		
ETX	LL1							1											
FOX	GN1	3			4														
FOX	LL1	19			45			4			52			38			33		
FOX	TR1	449			218			133			86			111			75		
FOX	TR2	11			8			8											
GUP	GN1	91			38														
GUP	LL1	177			103			29			106			2			2		
GUQ	GN1	288			288			23			1								
GUQ	LL1	161			160			28			31			10					
GUQ	TR1																		
HAD	BT1	1			7			1			1								
HAD	BT2																		
HAD	GN1	2						3			4			9			12		
HAD	LL1	1			1			4			6			5					
HAD	TR1	4428	3318	0.43	2667	2121	0.44	2780	1183	0.3	5396	4729	0.47	3354	2989	0.47	2465	659	0.21
HAD	TR2	807	1260	0.61	498	1397	0.74	238	1219	0.84	208	739	0.78	265	640	0.71	232	344	0.6
HAD	TR3				1														
HAD	NONE	42	13		38	14		0			12			9			1		
HKE	BT1																		
HKE	BT2																		
HKE	GN1	11			14			31			86			405			1057		
HKE	LL1	144			307			699			4197			3040			3095		
HKE	TR1	220			379			530			731			836			1112		
HKE	TR2	114			177			146			167			112			99		
HKE	TR3																1		
HKE	NONE	0			2			0			0			0					

Table 6.5.2.1 (cont) West of Scotland. Landings (t), discards (t) and relative discard rates by species and derogation existing in Table 1 of Annex IIA of Coun. Reg. 43/2009, 2003-2008.

SPECIES	REG_GEAR	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
JAX	GT1							190											
JAX	TR1	3			1			233			2			33			1		
JAX	TR2	5			7						2			801			526		
JAX	TR3										15			50					
JAX	NONE	22589			18063			14101			11185			21551			24550		
MAC	LL1																		
MAC	TR1	4			1			10			1			62			6		
MAC	TR2	842			549			1			7			121			1742		
MAC	TR3							439			140			23			223		
MAC	NONE	154002			127555			114136			97273			96637			82606		
NEP	BT1	2																	
NEP	GN1																		
NEP	LL1																		
NEP	TR1	407			195			367			522			514			471		
NEP	TR2	8045			7808			7730			10334			12886			11990		
NEP	TR3				1									1			1		
NEP	NONE	462			533			595			608			578			579		
ORY	GN1																		
ORY	TR1	1			1														
ORY	TR2	1			1			5			1								
OXN	NONE													0					
PEN	NONE	1			0						0			0			1		
PLE	BT1	42			10			9											
PLE	BT2	1			3														
PLE	GN1																		
PLE	TR1	198			107	215	0.67	36			36			46	19	0.29	33	2	0.06
PLE	TR2	152	69	0.31	67	64	0.49	53	20	0.27	33			32	5	0.14	13		
PLE	TR3																		
PLE	NONE	2			8			0			0			0			0		
POK	BT1				6						2			1					
POK	GN1	12						3			53			251			322		
POK	LL1	2			2			4			7			17			8		
POK	TR1	3940	8403	0.68	2777	541	0.16	4090	4400	0.52	5214	2945	0.36	3578	956	0.21	3921	1543	0.28
POK	TR2	76	60	0.44	36	26	0.42	28	34	0.55	11	49	0.82	7	10	0.59	5	301	0.98
POK	NONE	1			1			6			5			4			0		
RAJ	BT2				1														
RAJ	GN1	1			12									1					
RAJ	GT1										5								
RAJ	LL1							1											
RAJ	TR1	64			55			35			22			44			46		
RAJ	TR2	248			239			146			138			68			52		
RAJ	TR3																		
RAJ	NONE	4			20			0			0			0			2		
RNG	LL1																		
RNG	TR1	127			100			44			59			139			8		
RNG	TR2				6			11			3								
SBL	LL1													31					
SBL	TR1																		
SCK	GN1	79			7														
SCK	LL1	81			108			19			25			2					
SCK	TR1				2														
SOL	BT1																		
SOL	BT2	5			1														
SOL	GN1																		
SOL	TR1	1			3			1						2			2		
SOL	TR2	25			18	1	0.05	16			12			20			13		
SOL	TR3																		
SOL	NONE	1			2			0									1		
SYR	LL1													34					
SYR	TR1																		
WHB	TR2																700		
WHB	TR3				5250			1475									1000		
WHB	NONE	18599			100176			103920			95805			35565			15445		
WHG	BT1																		
WHG	BT2																		
WHG	GN1																2		
WHG	LL1																		
WHG	TR1	687	353	0.34	436	1268	0.74	130	219	0.63	186	51	0.22	412	84	0.17	354	22	0.06
WHG	TR2	660	1795	0.73	369	1672	0.82	204	857	0.81	194	4100	0.95	70	260	0.79	84	168	0.67
WHG	TR3																		
WHG	NONE	5			2			0			0			0			0		

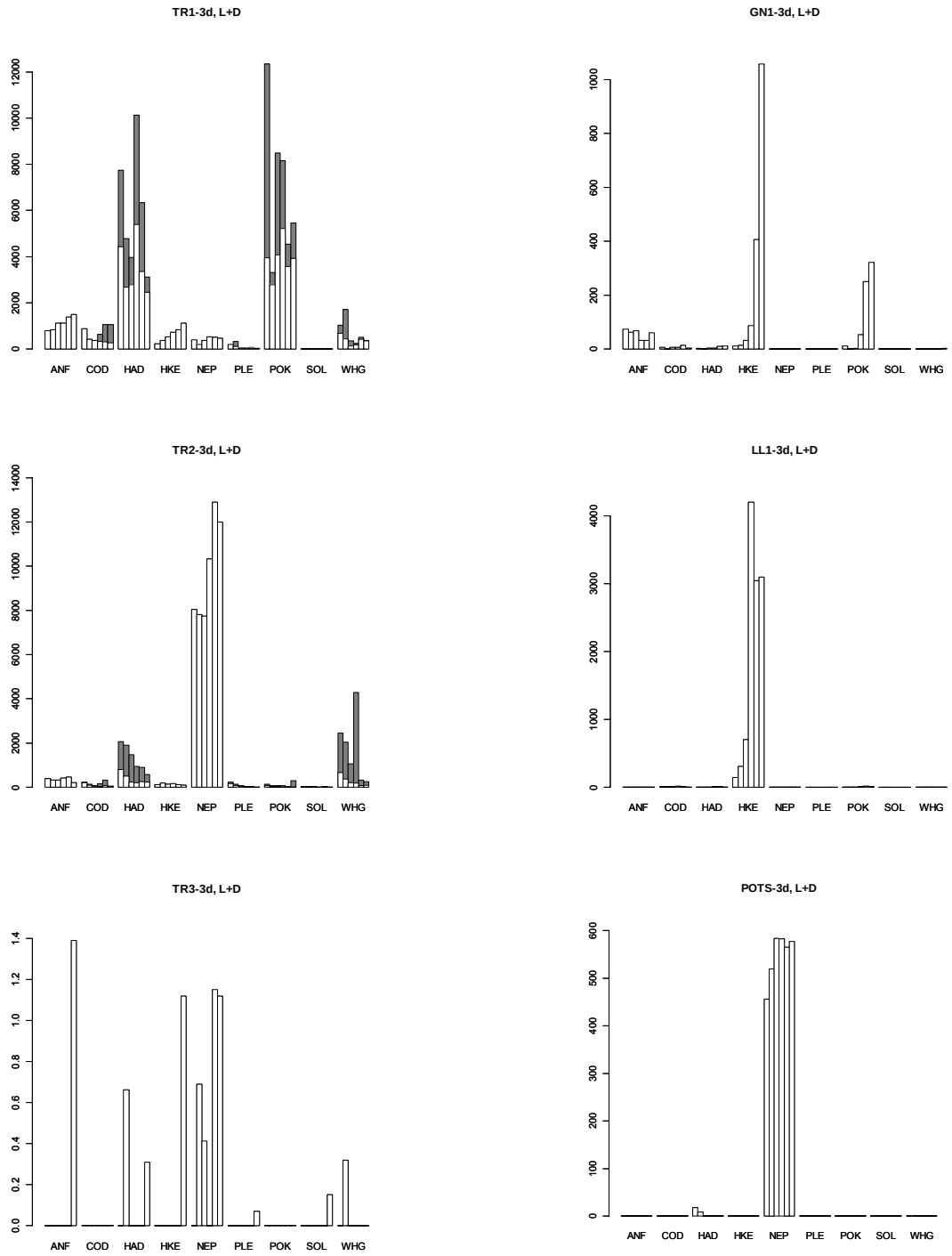


Figure 6.5.2.1 West of Scotland. Landings (t) and discard (t) by derogations in Coun. Reg. (EC) 43/2009 and species, 2003-2008 (from left to right). White bars represent landings, grey bars discards. Note that discard data are only available for some species (COD, HAD, POK and WHG) and gears. The lack of discard information for a given species/gear in this figure represents no information rather than zero discards.

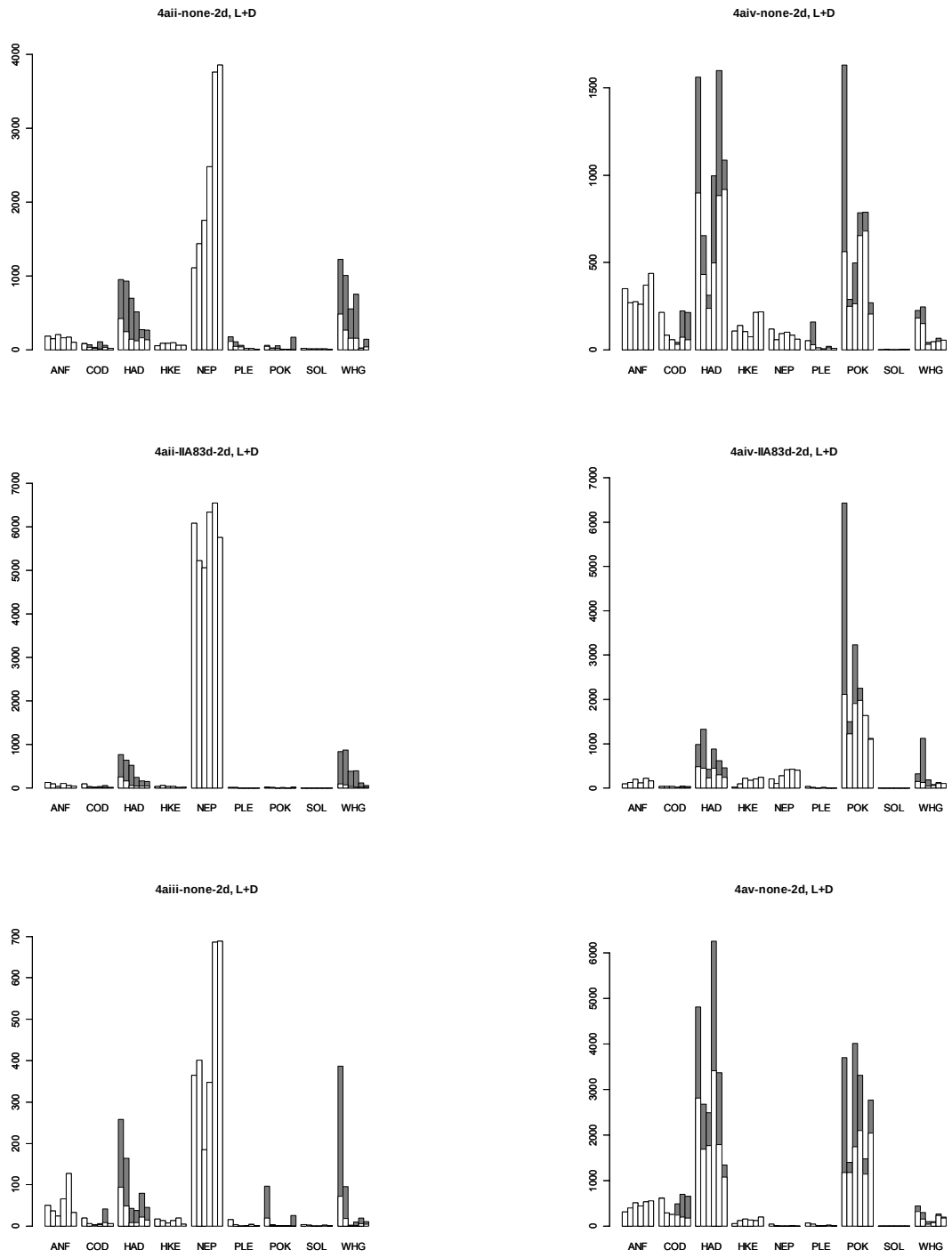


Figure 6.5.2.2 West of Scotland. Landings (t) and discard (t) by trawl gear derogations in Coun. Reg. (EC) 40/2008 and species, 2003-2008 (from left to right).). White bars represent landings, grey bars discards. Note that discard data are only available for some species (COD, HAD, POK and WHG) and gears. The lack of discard information for a given species/gear in this figure represents no information rather than zero discards.

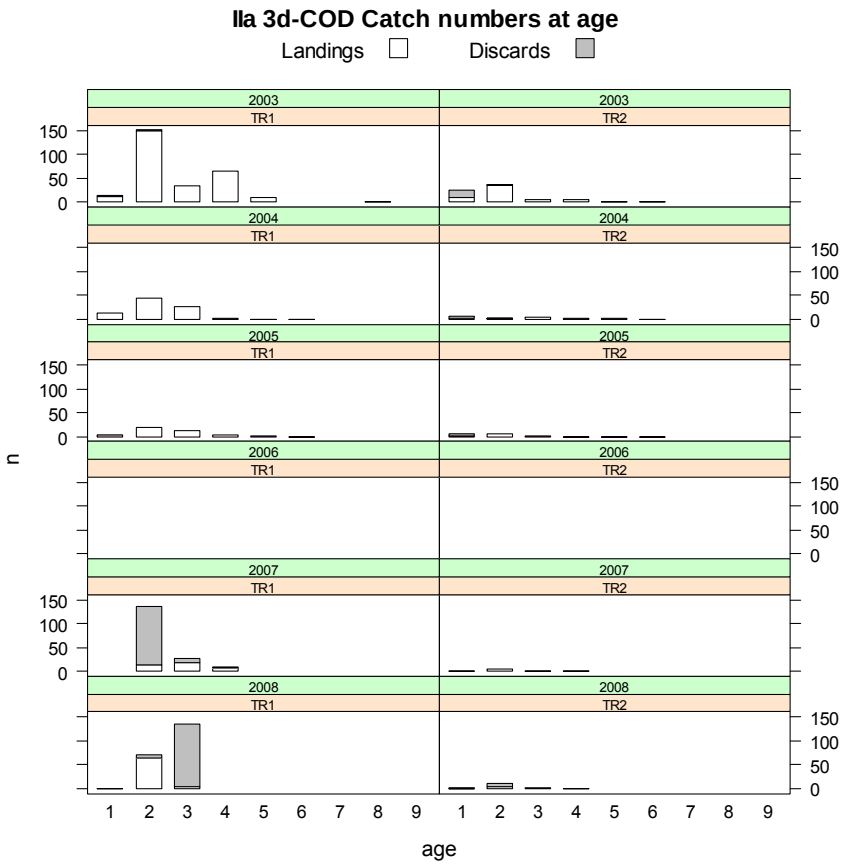


Figure 6.5.2.3 West of Scotland. Cod landings and discards ('000) at ages 1-9 by major derogations under Coun. Reg. (EC) 43/2009, 2003-2008 (from left to right). White bars represent landings, grey bars discards.

6.5.3. Trend in CPUE of cod by derogation in management area 3d/2d: West of Scotland

Section 6.5.2 shows how catch of plaice and sole are negligible in the west of Scotland waters and therefore this section only considers CPUE of cod. Tables 6.5.3.1 and 6.5.3.3 show cod catch per unit effort (CPUE), recorded in g/kWdays for all derogations within Coun. Reg (EC) 43/2009 and 40/2008 respectively. Tables 6.5.3.2 and 6.5.3.4 show landings per unit effort for the same derogations. The CPUE and LPUE values for the SPECON 4.a.iii IIA83d are considered to be the result of an error in data compilation (inconsistent division of effort and catch between categories 4.a.iii none and 4.a.iii IIA83d). This special condition related to cod, sole and plaice representing < 5% of catch. The problem should not arise under the effort categories for 2009 as all associated effort and catch falls into the TR2 category. Section 6.5.1 showed an increase in recorded effort for longlines west of Scotland but the tables show CPUE of cod for this gear type (LL1; 4e) to be low with no catch of cod recorded in 2008.

Figures 6.5.3.1 to 6.5.3.2 show cod CPUE and LPUE respectively for the top four gear types under the 2009 regulation; ranked in terms of average value over the years 2003-2008. It should be noted that although the gear group BT1 appears in these figures no catches of cod by this type of gear have been recorded from 2006 onwards. Also, no discard information is available for gill nets (GN1) such that results for this gear type are effectively LPUE in each figure. It is clear from Figure 6.5.3.1 that CPUE has risen considerably for the TR1 gear type since 2005. ICES assessments have estimated the 2005 year class of cod to be the largest in the last decade and the pattern of CPUE is consistent with the catchability of fish in the 2005 year class increasing as the fish grow in size (and possibly redistribute from nursery areas). TACs for cod have declined over the same period and from Figure 6.5.3.2 it can be seen LPUE for the TR1 gears has remained flat. To illustrate the point further Figure 6.5.3.3 shows the ratio of CPUE to LPUE for cod for the gear types TR1 and TR2. Up to 2005 very few discards of cod were recorded for the TR1 gear resulting in a CPUE/LPUE value of 1. Since then this ratio has increased so that in 2008 CPUE was approximately 4 times LPUE. In 2006 and 2007 CPUE was approximately 5 times LPUE for the TR2 gear category but discards were recorded as very low in 2008. It is unclear whether the result reflects catches of juvenile cod from the 2005 year class in 2006 and 2007 or simply the uncertainty of discard observation data.

Table 6.5.3.1 West of Scotland. Cod CPUE (g/(kW*days)) by derogation in Coun. Reg. (EC) 43/2009 and year, 2003-2008.

SPECIES	REG AREA COD	REG GEAR COD	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008
COD	3d	BT1	33	40	8	0		
COD	3d	BT2	0		0			
COD	3d	DEM_SEINE	0					
COD	3d	DREDGE	0	0				
COD	3d	GN1	7	2	19	102	56	12
COD	3d	LL1	18	8	3	5	3	0
COD	3d	OTTER	5	0	0	34	0	0
COD	3d	PEL_TRAWL					0	
COD	3d	POTS	0	0		0		0
COD	3d	TR1	65	38	37	78	132	150
COD	3d	TR2	31	20	13	31	56	8

Table 6.5.3.2 West of Scotland. Cod LPUE (g/(kW*days)) by derogation in Coun. Reg. (EC) 43/2009 and year, 2003-2008.

SPECIES	REG AREA COD	REG GEAR COD	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
COD	3d	BT1	33	40	8	0		
COD	3d	BT2	0		0			
COD	3d	DEM_SEINE	0					
COD	3d	DREDGE	0	0				
COD	3d	GN1	7	2	19	102	56	12
COD	3d	LL1	18	8	3	5	3	0
COD	3d	OTTER	5	0	0	34	0	0
COD	3d	PEL_TRAWL					0	
COD	3d	POTS	0	0		0		0
COD	3d	TR1	65	38	37	41	38	39
COD	3d	TR2	30	13	8	6	11	8

Table 6.5.3.3 West of Scotland. Cod CPUE (g/(kW*days)) by derogation in Coun. Reg. (EC) 40/2008 and year, 2003-2008.

SPECIES	REG AREA COMB	REG GEAR	SPECON	CPUE 2003	CPUE 2004	CPUE 2005	CPUE 2006	CPUE 2007	CPUE 2008
COD	2d	4aii	IIA83d	21	10	6	13	22	5
COD	2d	4aii	none	55	38	20	64	32	12
COD	2d	4aiii	IIA83d	1812	2662	1326	491	31621	763
COD	2d	4aiii	none	22	6	4	8	37	6
COD	2d	4aiv	IIA83c	68	27	162	44	211	97
COD	2d	4aiv	IIA83d	6	7	6	5	11	10
COD	2d	4aiv	none	95	71	50	40	188	189
COD	2d	4av	IIA83c						
COD	2d	4av	IIA83d	12	6	25	42	22	142
COD	2d	4av	none	160	96	131	320	519	526
COD	2d	4bi	none	0		0			
COD	2d	4biv	none	33	40	8	0		
COD	2d	4ci	none					0	0
COD	2d	4cii	none	178	0	154	184	71	3
COD	2d	4ciii	none	0	0				1375
COD	2d	4civ	none			0	0		
COD	2d	4e	none	18	8	3	5	3	0
COD	2d	none	none	0	0	0	1	0	0

Table 6.5.3.4 West of Scotland. Cod LPUE (g/(kW*days)) by derogation in Coun. Reg. (EC) 40/2008 and year, 2003-2008.

SPECIES	REG AREA COMB	REG GEAR	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
COD	2d	4aii	IIA83d	20	7	4	3	4	4
COD	2d	4aii	none	52	21	13	8	17	12
COD	2d	4aiii	IIA83d	1812	2070	707	173	6588	763
COD	2d	4aiii	none	22	6	3	6	8	6
COD	2d	4aiv	IIA83c	68	27	162	44	84	48
COD	2d	4aiv	IIA83d	6	6	6	5	4	4
COD	2d	4aiv	none	95	71	50	31	62	51
COD	2d	4av	IIA83c						
COD	2d	4av	IIA83d	12	6	25	23	9	38
COD	2d	4av	none	160	96	131	162	149	139
COD	2d	4bi	none	0		0			
COD	2d	4biv	none	33	40	8	0		
COD	2d	4ci	none					0	0
COD	2d	4cii	none	178	0	154	184	71	3
COD	2d	4ciii	none	0	0				1375
COD	2d	4civ	none			0	0		
COD	2d	4e	none	18	8	3	5	3	0
COD	2d	none	none	0	0	0	1	0	0

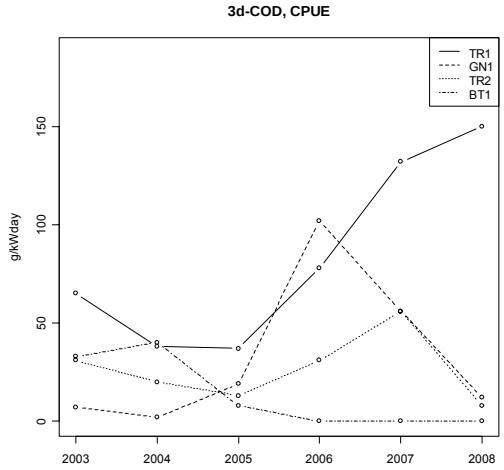


Figure 6.5.3.1 West of Scotland. Cod CPUE for the four gear categories with highest CPUE.

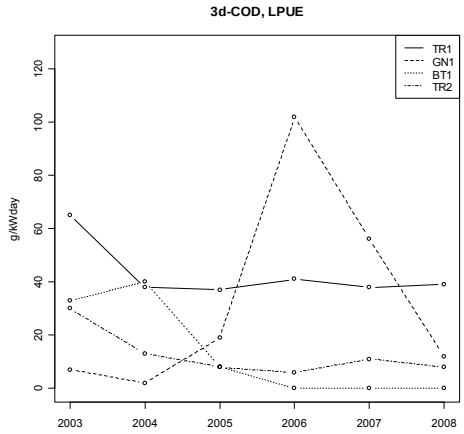


Figure 6.5.3.2 West of Scotland. Cod LPUE for the four gear categories with highest LPUE

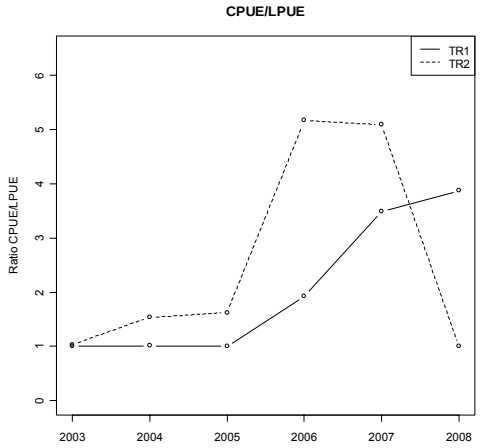


Figure 6.5.3.3 West of Scotland. Ratio of Cod CPUE to LPUE for the gear groups TR1 and TR2 under Coun. Reg. 43/2009.

6.5.4. Ranked derogations according to cod catches in management area 3d/2d: West of Scotland

Tables 6.5.4.1 and 6.5.4.2 show, respectively, cod catch and cod landings (tonnes) by gear types as specified in Coun. Reg. (EC) 43/2009, ranked according to their 2008 values. From these Tables the most important category in terms of cod catch and landings is TR1 with a three year average of over 80% of the VIa cod total by weight. The second most important gear category is TR2, which from section 6.5.2 can be seen to be a gear category with Nephrops as the primary landed species. The ranking of these two gear types is consistent whether the 2008 values or a three year average is used but the contribution of TR2 gear to catch has noticeably declined in 2008. Considering the three year average gill nets and long lines contribute 2% each to landings with no contribution from other categories.

Ranking in terms of numbers of fish are available on the JRC website (http://fishnet.jrc.it/web/stecf). STECF-SGMOS notes that the estimation of ranking by numbers of fish uses only categories for which age information is available. Categories without any information about age compositions are disregarded.

Table 6.5.4.1 West of Scotland. Gear derogations (Coun. Reg. 43/2009) ranked according to relative cod catch in tonnes, 2003-2008. Ranking is according to the year 2008.

SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	Mean 06-08
COD	TR1	0.79	0.75	0.81	0.76	0.75	0.95	0.82
COD	TR2	0.2	0.23	0.17	0.21	0.23	0.04	0.16
COD	GN1	0.01	0	0.01	0.01	0.01	0	0.01
COD	POTS	0	0		0		0	0.00
COD	LL1	0.01	0.01	0.01	0.02	0.01	0	0.01
COD	BT2	0		0				0.00
COD	BT1	0	0.01	0	0			0.00

Table 6.5.4.2 West of Scotland. Gear derogations (Coun. Reg. 43/2009) ranked according to relative cod landings in tonnes, 2003-2008. Ranking is according to the year 2008.

SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	Mean 06-08
COD	TR1	0.79	0.81	0.87	0.83	0.78	0.84	0.82
COD	TR2	0.19	0.16	0.1	0.09	0.16	0.15	0.13
COD	GN1	0.01	0	0.01	0.02	0.03	0.02	0.02
COD	POTS	0	0		0		0	0.00
COD	LL1	0.01	0.01	0.01	0.04	0.02	0	0.02
COD	BT2	0		0				0.00
COD	BT1	0	0.01	0	0			0.00

6.5.5. Unregulated gear in management area 3d/2d: West of Scotland

Category 'none' represents unregulated gear types and mesh sizes in addition to unidentified mesh sizes. This section provides a break down of the main gears within this category in terms of effort (kW*Days at sea) and cod, plaice and sole catches.

'None' effort is a high proportion of overall effort West of Scotland, accounting for between 50 and 60% of overall effort in the years 2000-2008. Prior to 2003 a proportion of this was due to Irish effort reported without mesh size information. From Table 6.6.5.1 and Figure 6.6.5.1 a dramatic reduction in the 'OTTER' category can be seen from 2003. To a lesser extent 'PEL_SEINE' effort also reduces significantly from 2003. It can be inferred the Irish effort with unreported mesh size belonged to these categories. Categories still significant after 2002 are pelagic trawls, dredges and pots. Effort using pelagic trawl gear rose to a peak in 2004 but has since declined and in 2008 was lower than the effort in the year 2000 for the first time. Effort by dredge gears has declined to roughly one half of the peak effort in 2002 but effort using pots has increased since 2000, although the value in 2008 fell back from a high in 2007.

Tables 6.5.5.2 to 6.5.5.4 show catches of cod, plaice and sole by gear sub-category. It can be seen that insignificant amounts of these species are caught within the none category.

Table. 6.5.5.1. West of Scotland. Unregulated gear according to Coun. Reg. (EC) 43/2009 effort (kW*Days) by gear type, 2000-2008.

ANNEX	REG AREA COD	REG GEAR COD	2000	2001	2002	2003	2004	2005	2006	2007	2008
IIa	3d	BEAM	10523	12528			10136				
IIa	3d	DEM_SEINE	75298	24711	31916	644					
IIa	3d	DREDGE	1981727	2037696	2245875	1950047	1683496	1510557	1161672	911530	1075527
IIa	3d	none	50876	57096	60279	52102	26858	42249	50920	63504	68847
IIa	3d	OTTER	2016559	1819009	1492506	187879	514781	654988	290705	41340	151384
IIa	3d	PEL_SEINE	538086	490618	358793	236424	266254	157776	186486	113645	
IIa	3d	PEL_TRAWL	9071669	10329555	11105574	11125139	16511370	12950354	10674327	9482486	8226273
IIa	3d	POTS	2188417	2546277	2497117	2637737	2664107	2762361	2722710	3429787	2901620
Unregulated gear Total			15933155	17317490	17792060	16189972	21677002	18078285	15086820	14042292	12423651

Table. 6.5.5.2. West of Scotland. Unregulated gear according to Coun. Reg. (EC) 43/2009 cod catch (tonnes) by gear type, 2003-2008.

Species	Gear	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
COD	DEM_SEINE	0.356	0.000										
COD	DREDGE	0.083	0.000	0.504	0.000								
COD	OTTER	0.754	0.000	0.470	0.000	0.072	0.000	10.061	0.000	0.049	0.000	0.038	0.000
COD	PEL_TRAWL									0.350	0.000		
COD	POTS	0.480	0.000	0.282	0.000			0.001	0.000			0.070	0.000
Unregulated Gears Total		1.672	0.000	1.257	0.000	0.072	0.000	10.062	0.000	0.399	0.000	0.108	0.000

Table. 6.5.5.3. West of Scotland. Unregulated gear according to Coun. Reg. (EC) 43/2009 plaice catch (tonnes) by gear type, 2003-2008.

Species	Gear	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
PLE	BEAM			3.500	0.000								
PLE	DEM_SEINE	0.300	0.000										
PLE	DREDGE	0.073	0.000	0.415	0.000	0.012	0.000						
PLE	OTTER	1.896	0.000	2.963	0.000					0.014	0.000	0.012	0.000
PLE	POTS	0.329	0.000	0.736	0.000	0.060	0.000	0.013	0.000				
Unregulated Gears Total		2.597	0.000	7.615	0.000	0.072	0.000	0.013	0.000	0.014	0.000	0.012	0.000

Table. 6.5.5.4. West of Scotland. Unregulated gear according to Coun. Reg. (EC) 43/2009 sole catch (tonnes) by gear type, 2003-2008.

Species	Gear	2003 L	2003 D	2004 L	2004 D	2005 L	2005 D	2006 L	2006 D	2007 L	2007 D	2008 L	2008 D
SOL	BEAM			1.030	0.000								
SOL	DEM_SEINE	0.020	0.000										
SOL	DREDGE	0.462	0.000	0.318	0.000	0.058	0.000					0.016	0.000
SOL	none											1.050	0.000
SOL	OTTER	0.623	0.000	1.170	0.000								
SOL	POTS	0.010	0.000	0.100	0.000							0.020	0.000
Unregulated Gears Total		1.115	0.000	2.618	0.000	0.058	0.000					1.086	0.000

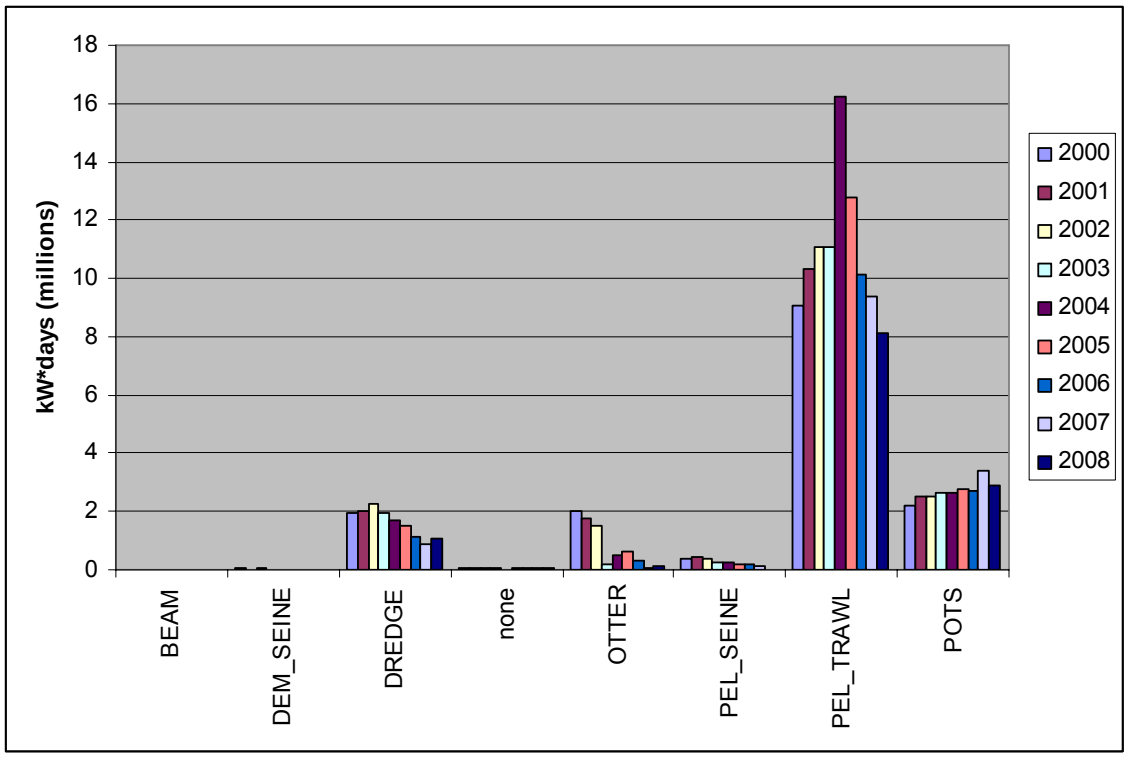


Figure 6.5.5.1 West of Scotland. Unregulated gear according to Coun. Reg. (EC) 43/2009 (category none) effort (kW*Days) by gear type, 2000-2008.

6.5.6. Vessels <10m in management area 3d/2d: West of Scotland

Activity by vessels <10m in area 3d (west of Scotland) was recorded by Belgium, France, Germany, Ireland, UK(EWNI) and UK(Scotland). Descriptions of the type and quality of data available for assessing effort and landings of these vessels can be found in section 5 Only Ireland, UK(EWNI) and UK(Scotland) recorded effort and landings in area 3d West of Scotland.

For UK (Scotland) effort data in kW*days and landings data could be compiled in the same way as for vessels greater than 10m in length. The results for area 3d (west of Scotland) are shown in Tables 6.5.6.1. and 6.5.6.2. Overall effort has increased between 2000 and 2006 due to increasing effort using pots. From Table 6.7.5.2 however, it can be seen landings of cod, plaice and sole are low in all years from 2003. Approximately 2,200 tonnes of *Nephrops* are landed with pots taking slightly more than otter trawls.

Table 6.5.6.1 West of Scotland. Effort (kW*days) of Scottish vessels under 10 metres by gear type, 2000-2008

Sum of NOMINAL_EFFORT	YEAR								
GEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008
DREDGE	32327	56463	44475	83679	104657	67282	22775	32032	57077
GILL	101	456	42			56	468	1800	5889
LONGLINE	142	1692		25	160		271	241	1648
none	429123	320254	87647	106902	127779	122184	162708	122237	111440
OTTER			250	2307	1179	493		123	378
PEL_TRAWL					475				
POTS	1605355	1828112	2247569	2668812	2668821	3039429	3638455	3571083	3143786
TRAMMEL								368	
Grand Total	2067048	2206977	2379983	2861725	2903071	3229444	3824677	3727884	3320218

Table 6.5.6.2 West of Scotland. Landings (tonnes) of cod, plaice and sole, plus anglerfish, haddock, hake, mackerel, *Nephrops,* saithe and whiting by Scottish vessels under 10 m by gear type, 2003-2008.

SPECIES	GEAR	Sum of 2002	Sum of 2003	Sum of 2004	Sum of 2005	Sum of 2006	Sum of 2007	Sum of 2008
ANF	none		0.05					
	OTTER		2.94	4.16	1.04	3.60	0.71	0.33
	POTS		5.16	7.07	0.23			
ANF Total			8.14	11.24	1.28	3.60	0.71	0.33
COD	GILL							0.10
	OTTER		2.14	0.87	0.38	0.77	1.63	0.65
	POTS		0.70	0.19			0.54	
COD Total			2.84	1.06	0.38	0.77	2.17	0.75
HAD	DREDGE					0.06		
	none		0.15					
	OTTER		4.29	6.53	1.97	2.75	0.90	0.63
	POTS		20.16	5.49	0.11		0.05	
HAD Total			24.59	12.02	2.08	2.81	0.95	0.63
HKE	OTTER		0.18	0.63	0.39	0.40		0.45
	POTS		0.41	0.11				0.02
HKE Total			0.59	0.74	0.39	0.40		0.48
MAC	LONGLINE		0.36			0.25	1.34	0.94
	none				0.18	0.01	0.33	0.00
	POTS		0.08	0.35		0.13	0.80	0.66
MAC Total			0.44	0.35	0.18	0.39	2.46	1.60
NEP	DREDGE		0.02	2.37	0.02	0.94	0.09	0.05
	GILL						0.08	
	LONGLINE							0.16
	none		5.74	0.49			0.32	0.09
	OTTER		612.81	593.18	576.28	1039.18	1088.09	1064.12
	PEL_TRAWL			0.32				
	POTS	2.22	1200.89	1186.98	1176.98	1262.07	1249.60	1116.44
NEP Total		2.22	1819.46	1783.33	1753.28	2302.19	2338.19	2180.86
PLE	OTTER		0.05	0.05	0.05	0.51	0.07	0.08
	POTS		0.01					
PLE Total			0.06	0.05	0.05	0.51	0.07	0.08
POK	OTTER			0.01	0.06			
POK Total				0.01	0.06			
SOL	OTTER				0.03			
	POTS			0.00				
SOL Total				0.00	0.03			
WHG	none		0.06					
	OTTER		0.54	2.23	2.03	0.81	0.03	0.83
	POTS		13.72	3.79	0.02			0.06
WHG Total			14.31	6.02	2.06	0.81	0.03	0.90

Ireland

Irish under 10 meter vessel landings are not recorded by gear type. Therefore Table 6.7.5.3 represents landings by all gears types used by these vessels in the west of

Scotland. This information is known to be incomplete, however. No area specific vessel numbers or effort is available from Ireland, for further description of information available from Ireland, see Section 5.

Table 6.5.6.3. West of Scotland; landings (tonnes) of all species recorded by Irish under 10 meter vessels, 2003-2008.

COUNTRY	SPECIES	VESSEL_LENGTH	GEAR	2003	2004	2005	2006	2007	2008
IRL	ANF	u10m	none		0.23				0.16
IRL	COD	u10m	none	0.02	0.35				
IRL	HAD	u10m	none		0.97				0.06
IRL	HKE	u10m	none		0.29				0.17
IRL	NEP	u10m	none						2.35
IRL	PLE	u10m	none	0.4	0.69				1.85
IRL	POK	u10m	none	6.25	0.76				
IRL	RAJ	u10m	none	2.61	13.28	19.06	17.91	7.71	8.42
IRL	SOL	u10m	none		0.27				1.87
IRL	WHG	u10m	none	0.36	1.12				0.06

UK England, Wales and Northern Ireland – UK(EWNI)

As can be seen from Table 6.5.6.4 virtually no landings of cod, plaice or sole are recorded as taken by UK(EWNI) vessels west of Scotland. For a description of data available on vessels under 10m length from UK (EWNI) see Section 5.

Table 6.5.6.4. West of Scotland; estimated landings (tonnes) of all species recorded by UK(EWNI) vessels under 10m, 2003-2008.

SPECIES	GEAR	Sum of 2002	Sum of 2003	Sum of 2004	Sum of 2005	Sum of 2006	Sum of 2007	Sum of 2008
ANF	OTTER		0.070	0.020	0.001	0.290	0.080	0.013
COD	OTTER				0.051	0.010	0.010	0.010
HAD	OTTER		0.230	0.067		0.019	0.025	0.010
HKE	OTTER		0.010	0.008		0.112	0.011	0.001
NEP	OTTER		32.440	20.120	13.950	30.080	41.950	47.710
	POTS		4.470		3.640	1.580	1.670	1.630
PLE	OTTER				0.042			
POK	OTTER				0.050			
SOL	OTTER					0.121	0.022	0.005
WHG	OTTER				1.080			

Overall landings by under 10m in AREA 3D West of Scotland

Table 6.5.6.5 summarises landings of cod, plaice, sole, hake and *Nephrops* from 2008. The only significant landings are those of *Nephrops* with the majority being taken by Scottish vessels.

Table 6.5.6.5 West of Scotland. Landings of cod, plaice, sole, hake and *Nephrops* (tonnes) by vessels under 10 meters in 2008.

SPECIES	ENG	IRL	NIR	SCO	Grand Total
ANF		0.16	0.01	0.33	0.51
BSF					
COD			0.01	0.75	0.76
HAD		0.06	0.01	0.63	0.70
HKE		0.17	0.00	0.48	0.65
MAC				1.60	1.60
NEP	36.00	2.35	13.34	2180.86	2232.55
PEN				2.38	2.38
PLE		1.85		0.08	1.93
POK					
RAJ		8.42			8.42
SOL		1.87	0.01		1.88
WHG		0.06		0.90	0.96
Grand Total	36.00	14.94	13.38	2188.00	2252.32

6.5.7. Significance of Unregulated Gears and Vessels <10m in management area 3d/2d: West of Scotland

Section 6.5.5 showed that the majority of unregulated effort by vessels > 10m involved use of dredges or deployment of pots. The section also showed how the unregulated gears landed very small quantities of cod, plaice and sole. Although it must be borne in mind that information is not available about discards from these gears it is probable their significance in terms of catch of cod, plaice and sole is low.

Section 6.5.6 outlined available information on landings by vessels < 10m west of Scotland. Again recorded landings of cod, plaice and sole are very low and the same conclusion of low significance in terms of catch of cod, plaice and sole applies. Analysis of < 10 m vessels also considered landings of hake and *Nephrops*. *Nephrops* was found to be the only species landed in any significant quantities, much of this comes from the creel fishery operating on the west coast.

Table 6.5.7.1 West of Scotland. Landings (tonnes) of cod, plaice and sole in 2008 by vessels < 10m and by unregulated gears compared to overall landings recorded in the area.

	Cod	Plaice	Sole
Total landings in area	323	46	16
Total landings from vessels < 10m	1	2	2
Total landings (unregulated)	0.1	0	1.1

6.5.8. Spatial Distribution of Effective Effort in management area 3d/2d: West of Scotland

Spatial figures of effort for area 3d concentrate on those categories identified as significant in terms of recorded effort (see section 6.5.1) and in terms of catches of cod (section 6.5.2). From section 6.5.2 catches of plaice and sole are shown to be small for all categories in the west of Scotland area and these species were not considered when deciding on categories to present here. Figures use a common scale across years for a given category (e.g. TR1) but scales are unique to each category such that the colours assigned to statistical rectangles for category TR1 can not be compared directly to those assigned for category TR2 say. Figures use a percentiles scale, i.e. the same number of data values found in each colour band is the same. This is after data values across all years have been combined for that category.

TR1 (Figure 6.5.8.1) – For the most part effort is restricted to continental shelf waters ≤ 200 m in depth. In 2003, with the exception of waters around the north coast of Ireland and just to the west of the Hebrides effort on the continental shelf was relatively uniform. A contraction of effort between 2003 and 2008 is clear. ICES statistical rectangles in the highest effort category have reduced considerably, especially in the area south of 57N. To the north high effort rectangles are now mostly those that straddle the edge of the continental shelf.

4.a.v & 4.a.iv (Figures 6.5.8.2 and 6.5.8.3) – The TR1 category combines trawl gears with mesh greater than 100mm. A clear difference in effort pattern can be seen however between gear with mesh 100-120mm and mesh ≥ 120mm (gear groups 4.a.iv and 4.a.v under Coun. Reg. (EC) 40/2008). Effort for gear with mesh ≥ 120mm has in all years considered been concentrated north of 57N, following the shelf edge and then north of 58.5N as a block of high effort from 8W to the VIa/IVa boundary (Figure 6.5.8.2). Effort for gear with mesh 100-120mm in general is more widespread but between 2003 and 2008 has reduced overall and to an extent has concentrated to an area just north of the Hebrides and in a strip running SW to NE from the SW boundary of VIa (Figure 6.5.8.3).

TR2 (Figure 6.5.8.4) – From Figure 6.5.8.4 it can be seen that vessels using gear in the TR2 category primarily belong to coastal fisheries. Highest values of effort are in rectangles adjacent to the Scottish mainland from the northern end of the area between the Scottish mainland and the Outer Hebrides (known as the north and south Minches) as far as the boundary between management areas 3d and 3c. The time series shows a contraction of effort in towards these areas of greatest activity.

LL1 (Figure 6.5.8.5) – There is a concentration of effort along the continental shelf edge consistent with time. There have also been rectangles of high effort in the south Minch area and outside the Clyde estuary to the north of the 3d, 3c management area border in some years although not in 2008. Section 6.5.1 showed increased effort recorded in area 3d for this gear category but there is no obvious expansion of areas being fished using long lines.

GN1 (Figure 6.5.8.6) – Overall effort recorded for this category is low but LPUE of cod is the highest behind category TR1. Effort generally takes place offshore and between 2003 and 2005 was split between an area to the north west of ICES division VIa and an area to the south west of Ireland. In 2008 however there appears to be a new concentration of effort in the north of area VIa but now located on the continental shelf.

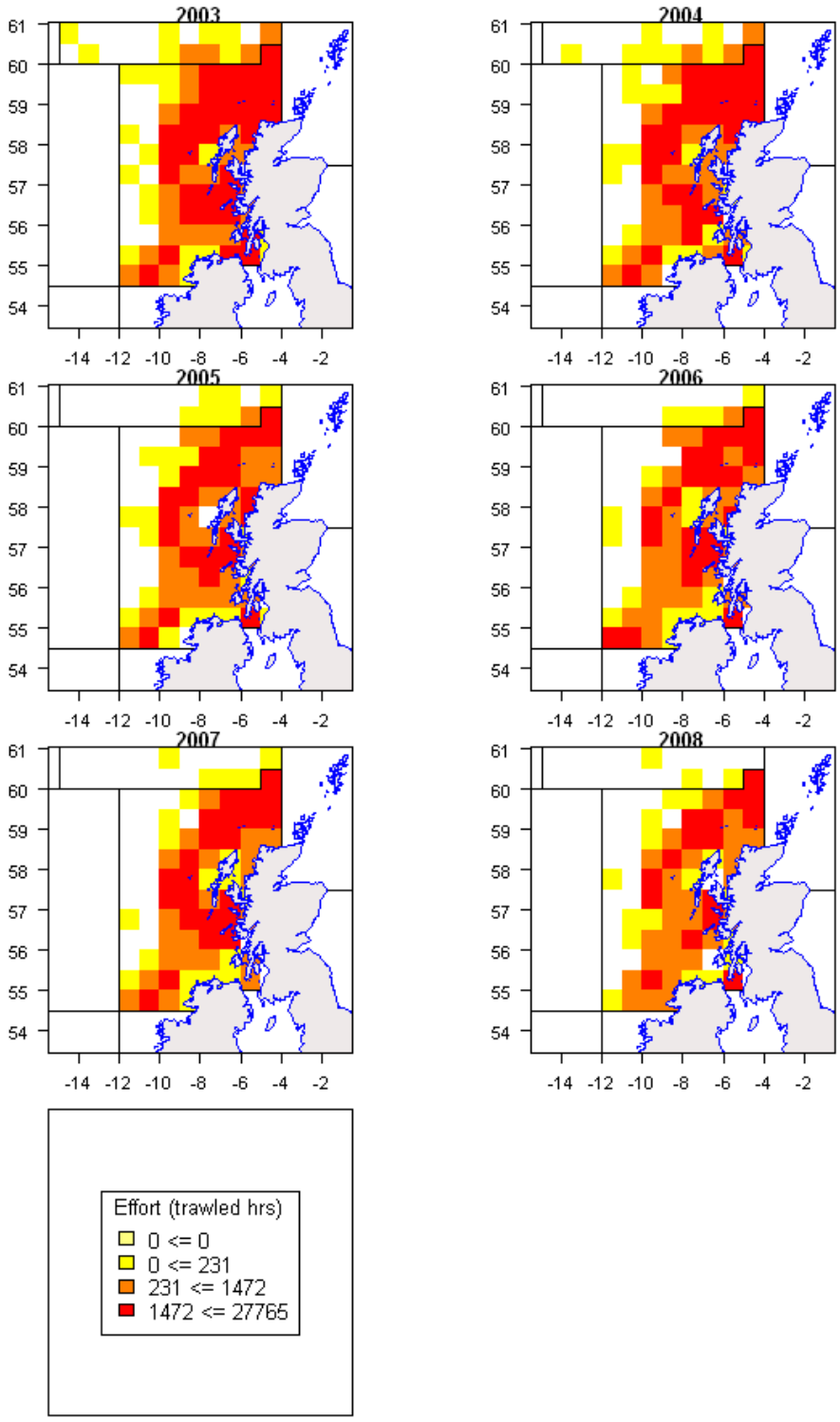


Figure 6.5.8.1 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for TR1, 2003-2008.

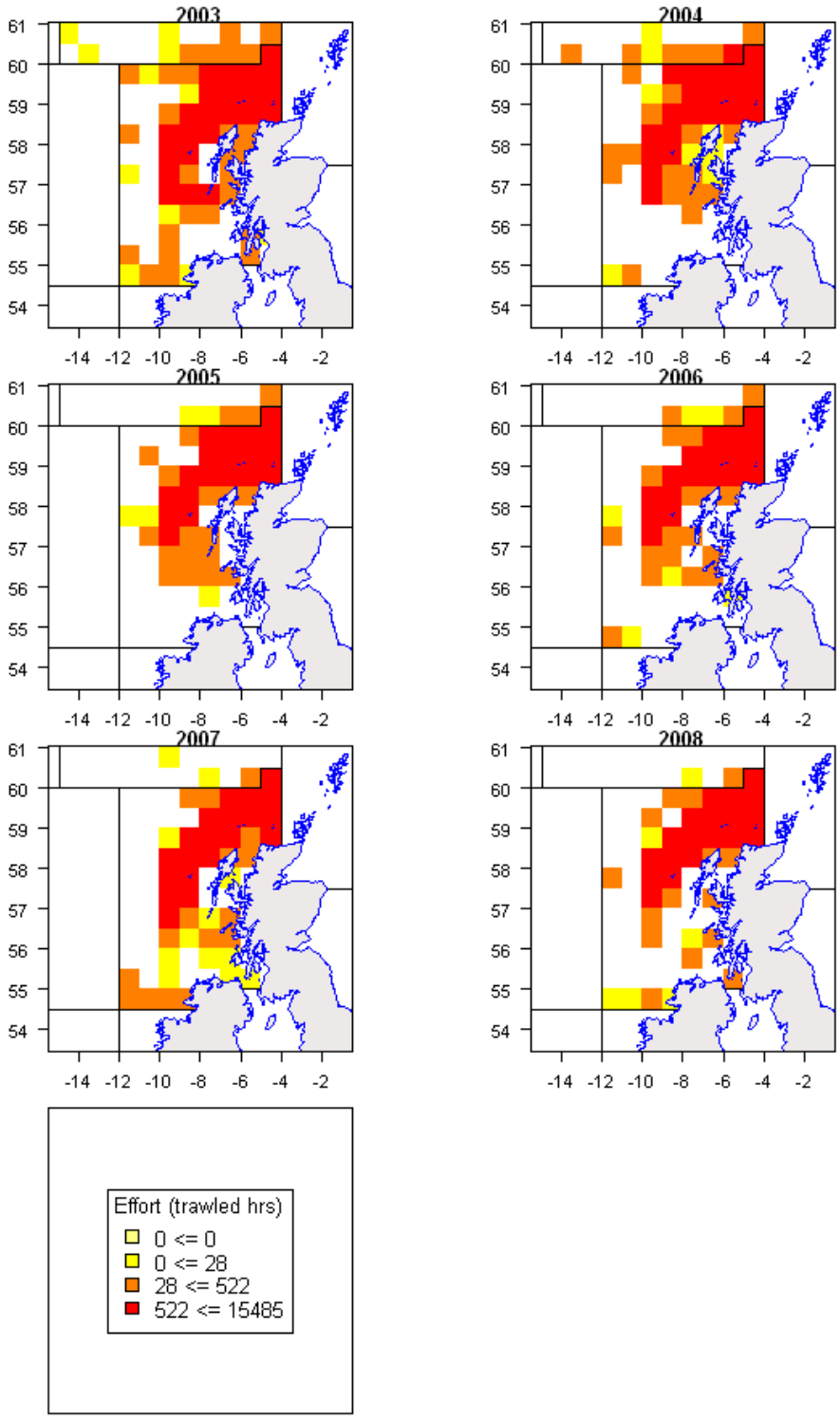


Figure 6.5.8.2 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for category 4.a.v (mesh ≥ 120mm) under Coun. Reg. (EC) 40/2008, 2003-2008.

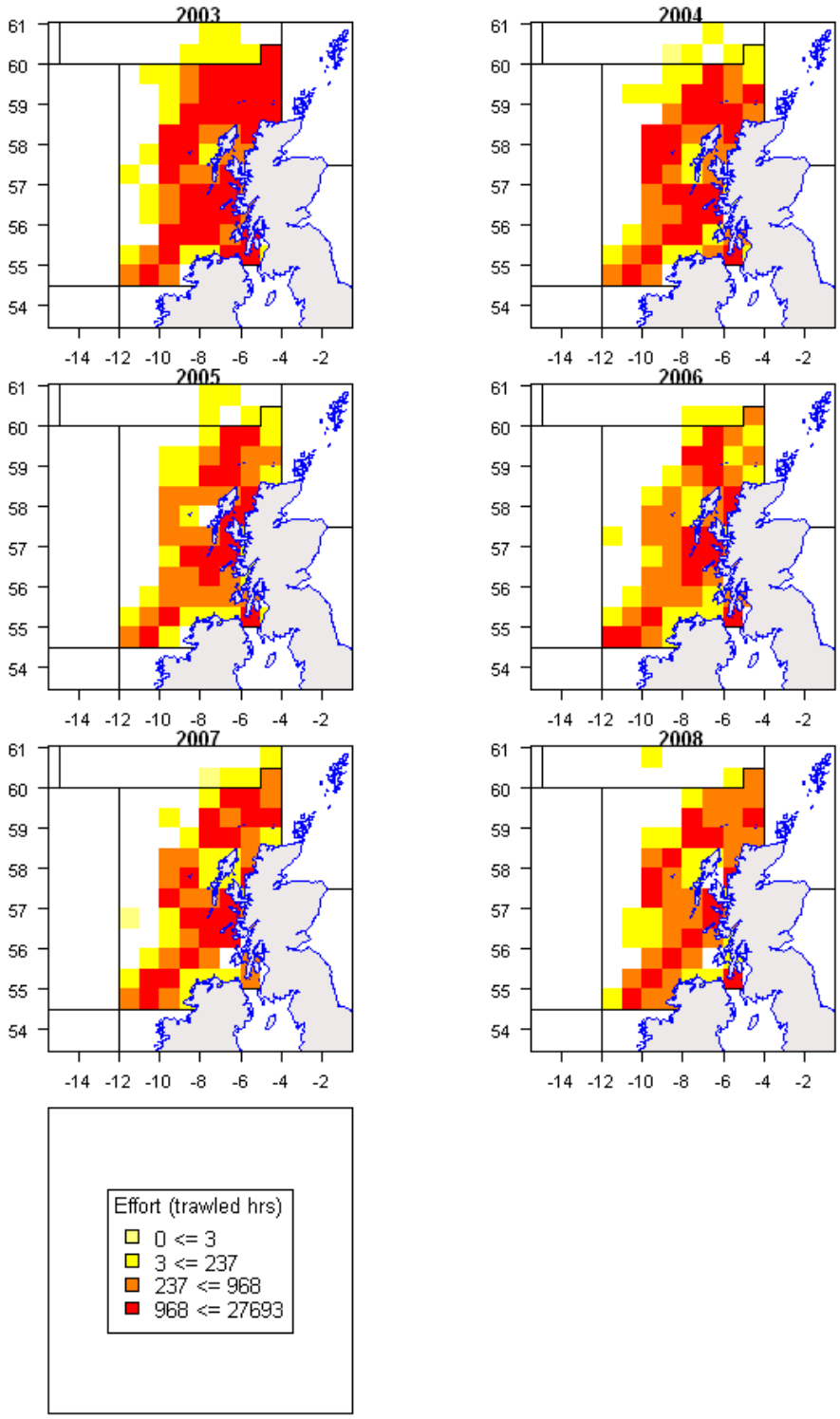


Figure 6.5.8.3 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for category 4.a.iv (mesh ≥ 100 < 120mm) under Coun. Reg. (EC) 40/2008, 2003-2008.

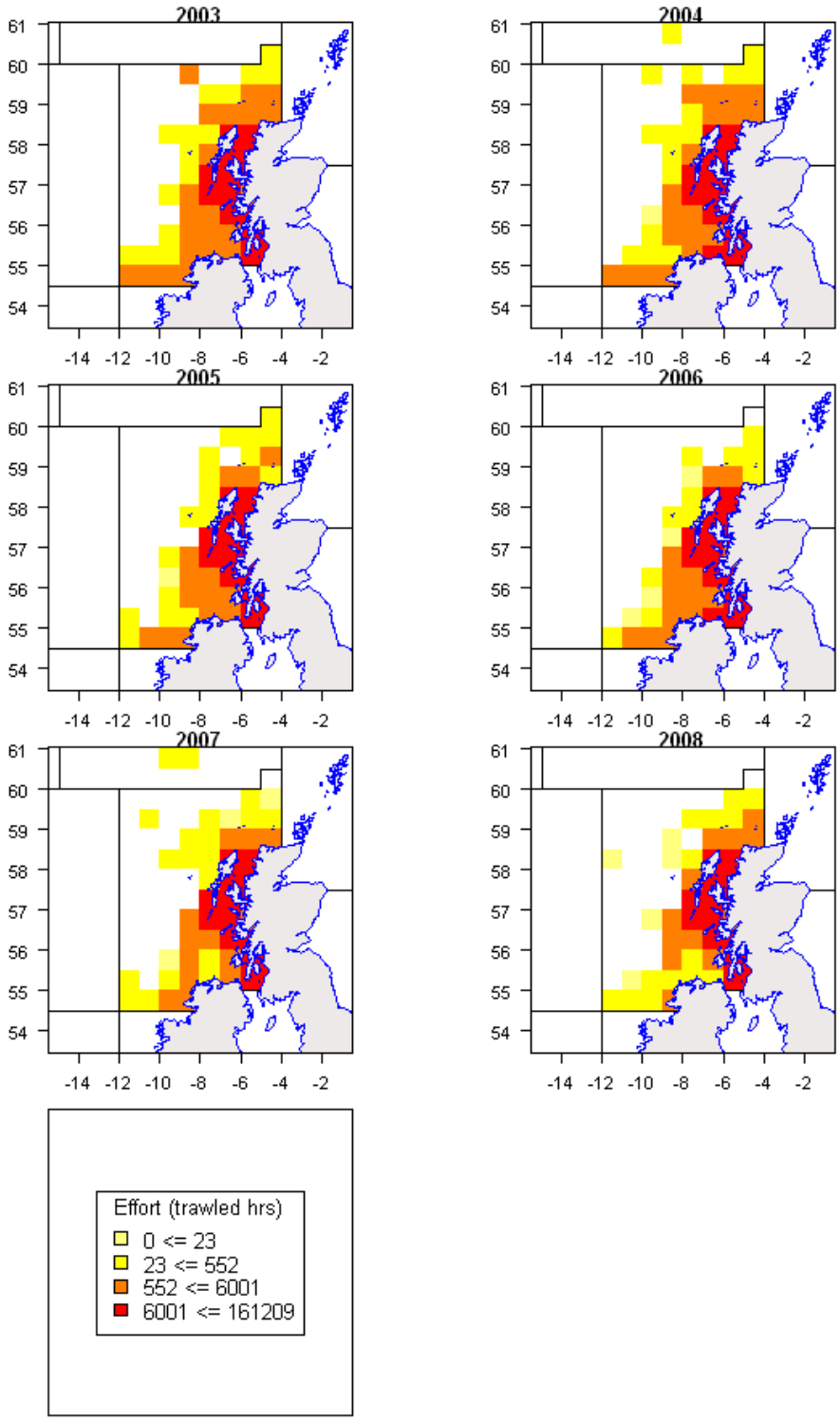


Figure 6.5.8.4 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for TR2, 2003-2008.

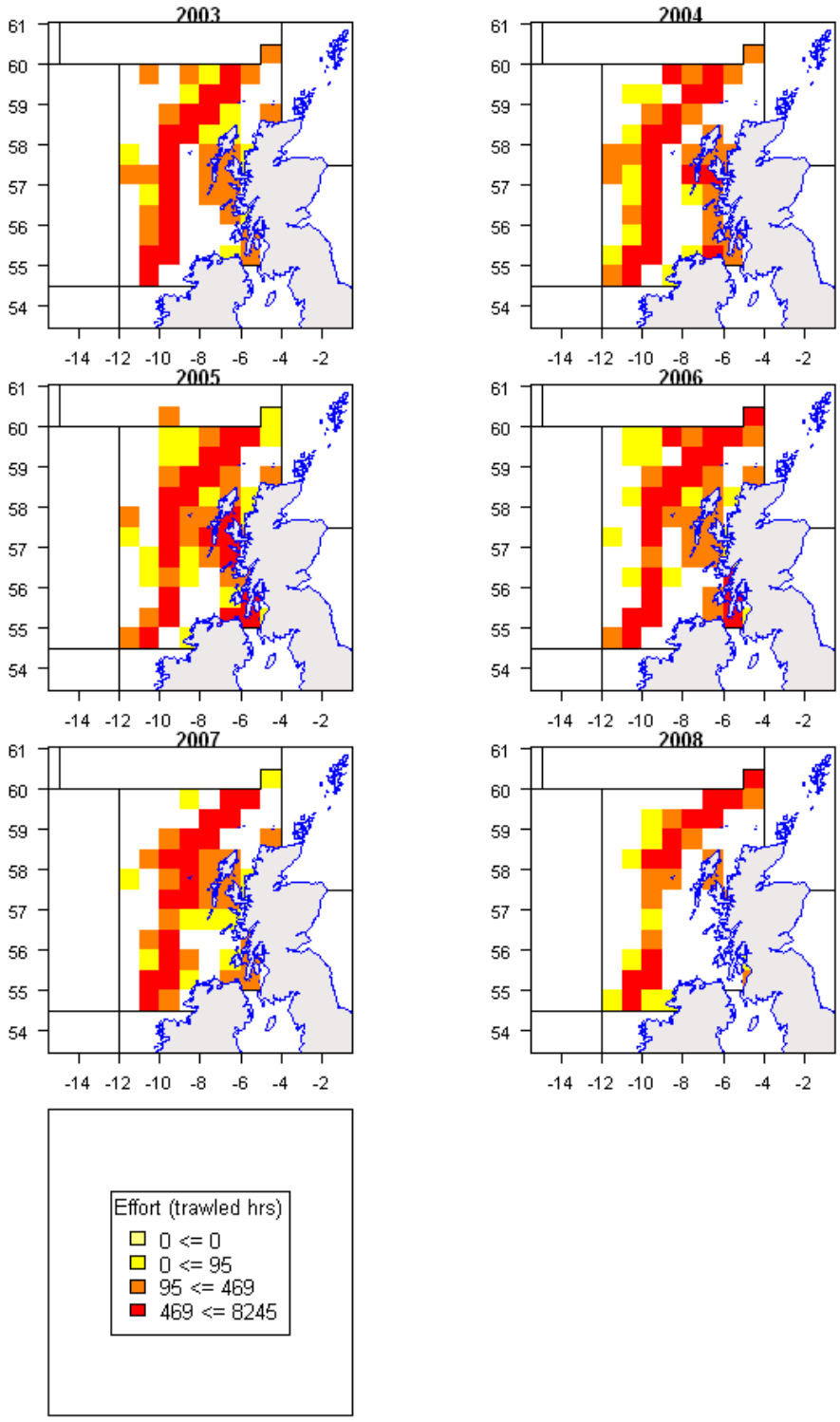


Figure 6.5.8.5 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for LL1, 2003-2008.

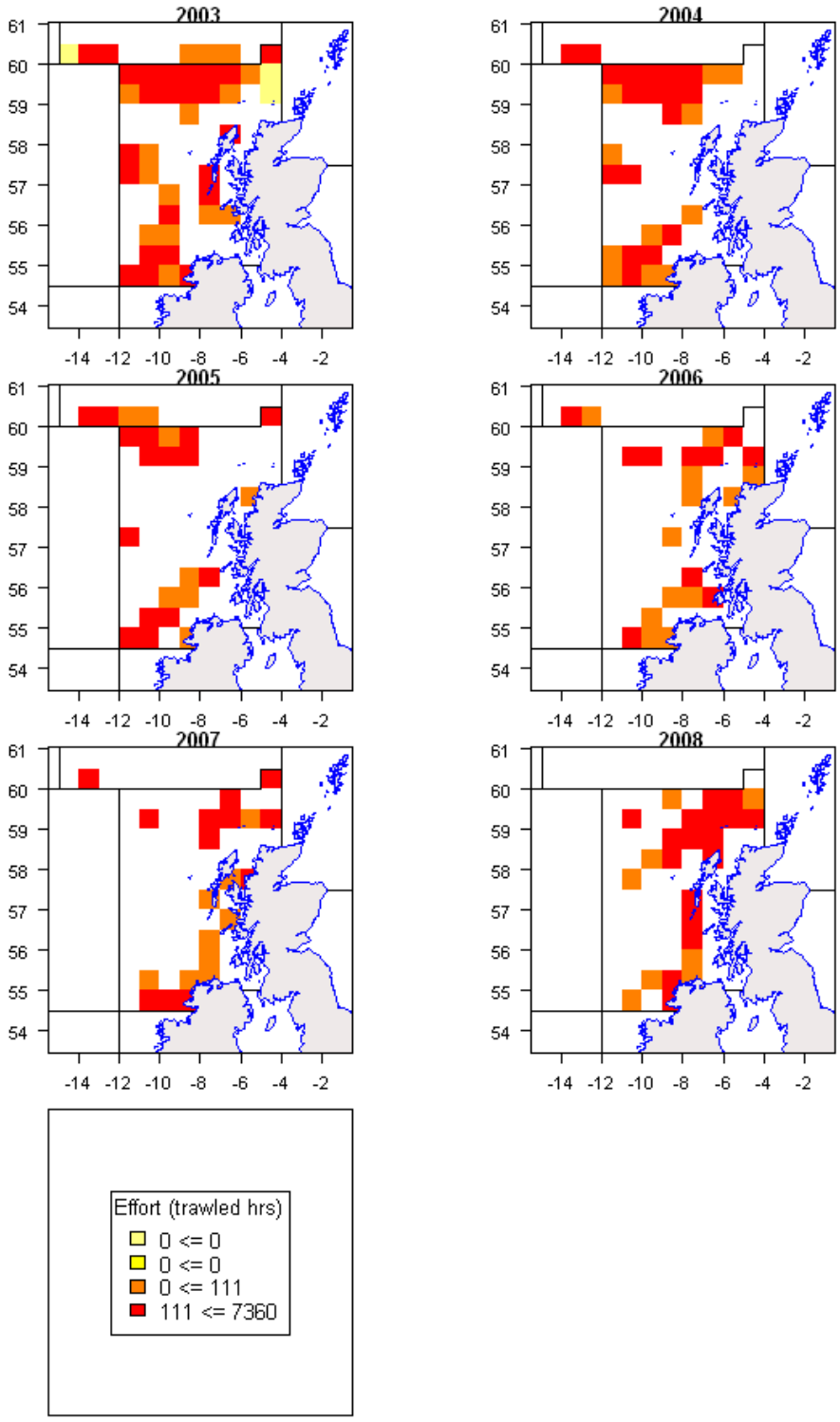


Figure 6.5.8.6 West of Scotland. Effort (trawled hours) by ICES statistical rectangle for GN1, 2003-2008.

6.5.9. Specific TOR on effort by Member State in ICES Area Vb

TOR"Provide effort information (kwdays) by member state and regulated gear for ICES Area Vb"

Background

The revised cod recovery plan defines Regulated Area 3d as ICES VIa and ICES Area Vb (EU) and requires that effort for these areas is combined, (previously, Vb EU was not included). In the interests of transparency for Member States it would be helpful to see how much effort has been added to the Reg Area 3d by the addition of Vb EU.

STECF SGMOS in 2009 now correctly combines effort for VIa and Vb EU in the Reg Area 3d summaries. The Table 6.5.9.1 below summarises the effort for Vb EU component.

Table 6.5.9.1 Effort in Vb EU by country and gear

ANNEX	Area code	REG ARE	REG GEAR	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
IIa	5b EU	3d	GN1	ENG	140735	233104	86980	158890	106655	42147	7804		
IIa	5b EU	3d	LL1	ENG	1921					3219			
IIa	5b EU	3d	POTS	ENG					744				
IIa	5b EU	3d	TR1	ENG	5679	22440	3305	5712	8405	3135	1522		
IIa	5b EU	3d	GN1	FRA			992	4109				9568	
IIa	5b EU	3d	GT1	FRA		23552							
IIa	5b EU	3d	PEL_TRAV	FRA			94208	20608	17664		35328	38272	
IIa	5b EU	3d	TR1	FRA	1906	16083	10448	34893	20937	5619	14726	11956	1233
IIa	5b EU	3d	TR2	FRA					5838	295		1584	
IIa	5b EU	3d	GN1	GER				15876	5733				
IIa	5b EU	3d	PEL_TRAV	GER				102767	4942	60375	28639	2600	
IIa	5b EU	3d	TR1	GER	1020					10590	5100		
IIa	5b EU	3d	OTTER	IRL		1800							
IIa	5b EU	3d	PEL_TRAV	IRL				13057	29321	27100		5880	
IIa	5b EU	3d	PEL_TRAV	NED		451252	28028	200693	341000	142740	83036	44686	48530
IIa	5b EU	3d	POTS	NIR							1744		
IIa	5b EU	3d	BT2	SCO		1608							
IIa	5b EU	3d	DREDGE	SCO				260					
IIa	5b EU	3d	GN1	SCO	246								
IIa	5b EU	3d	LL1	SCO		1404	7892						
IIa	5b EU	3d	PEL_SEIN	SCO	3090	5112	4950						
IIa	5b EU	3d	PEL_TRAV	SCO			33750	52687	94966				
IIa	5b EU	3d	TR1	SCO	86876	111676	84950	57491	83343	14951	16313	2566	12661

7. REVIEW OF ANNEX IIB OF REGULATION 40/2008 IN THE CONTEXT OF THE RECOVERY PLAN FOR SOUTHERN HAKE AND *NEPHROPS* (REGULATION 2166/2005)

7.1. General considerations regarding the derogations and special conditions

STECF-SGMOS considers that Annex IIB of Council Reg. 40/2008 represents a fleet specific effort management regime which supports the southern hake and *Nephrops* recovery plan (Council Reg. 2166/2005). Annex IIB excludes the Gulf of Cádiz although this area is included in the recovery plan regulation (EC Reg 2166/2005) and is part of the definition of the stock area of southern hake and Iberian *Nephrops*.

STECF-SGMOS notes that the classification of the trawl mesh size ≥32mm in Annex IIB mixes two clearly defined Portuguese fisheries. One fishery targets demersal fish species with mesh size 65-69mm, and the other targets crustaceans using two different mesh sizes (shrimps with mesh size 55-59mm and *Nephrops* with mesh size ≥70mm) with different licenses, operating in different fishing grounds and depth ranges. A clear identification of these mesh sizes in the effort regulation may provide more focused and efficient effort management.

STECF-SGMOS notes that under the gears group indicated in point 3 of the Annex IIB there is a mixture of 10 different Spanish metiers: "baca", "jurelera", pair bottom trawl (PTB), "volanta", "rasco", "*LLS-COE", "LLS-HKE", "LLS-POL", ("LLS-BSS") and "LLS-MIX".*

Otter bottom trawl, with cod end mesh size of 65 mm, a vertical opening of 1.2-1.5 m and a wingspread of 22-25 m (metier "baca") targets demersal species while the same gear with a vertical opening of 5-5.5 m and wingspread of 18-20 m (metier "jurelera") targets horse mackerel and other pelagics (Fonseca et al., 2000).

PTB, with cod end mesh size between 45-55 mm (Fonseca et al., 2000), vertical opening of 25 m and a wingspread of 65 m, targets blue whiting (69% of the total catches) and hake (IBERMIX, 2007).

The gillnet fleet is divided in metier "volanta", with mesh size of 90 mm operating in depths between 100 and 400 and targeting hake and metier "rasco", with mesh size of 280 mm operating in depths between 100-800 m and catching anglerfish.

The longline fleet is divided by targets species: conger (metier "*LLS-COE"), hake ("LLS-HKE"), pollack ("LLS-POL"), seabass ("LLS-BSS"), mixed fishery ("LLS-MIX")*. The metier "LLS-HKE" represents only the 15% of the longline effort and is the only fishery targeting large hake of breeding size (IBERMIX, 2007).

STECF-SGMOS considers that the use of fishing days (or kW*days) to manage effort of static gears such as gillnets and longlines is a very poor approximation of the effective effort and thus may put at risk the management goals. A possible way to improve the impact of the effort management towards an effective reduction in fishing mortality of static gears could be to enforce continuous closed periods so that fishermen will have to bring their gear ashore and stop fishing during certain periods.

STECF-SGMOS notes that the most recent changes to Annexes IIB were made under Council Reg. 40/2008 for 2008 as compared to the Annex IIB to 41/2007:

- The regulation allows fishing in the areas defined in point 1 with the gears of the point 3 with a special fishing licence (point 4.1), while in the 2007 regulation fishing was not allowed in any case.
- Points 7.3 and 7.4 are added to the 2007 regulation relating to the “maximum number of days”. These new points make reference to the management of the fishing effort allocations according to a kilowatt days system (7.3) and the conditions for a Member State (MS) to benefit from the provisions laid down in point 7.3 (7.4).
- In 2008 point 9.2 the details of the calculation must be based also “on the list of withdrawn vessels with their Community Fleet Register number (CFR) and their engine power”.
- In 2008 point 10.1 is added “observers shall be independent from the owner of the vessel and shall not be a member of the fishing vessel crew”.
- A point 10.4 is added, describing what the MS must do if it wishes to continue the application of a programme previously approved by the Commission without changes.
- In point 11.3, Table 1, the maximum number of days is 194 for all regulated gears (trawl, gillnet and longline) without special conditions.

There have been no further changes to the Regulation.

The following Table 7.1.1 lists the historic developments of days at sea by vessel and derogations.

Table 7.1.1 Historic trends in days at sea by vessel specified in the Council Regulations since 2005.

Annex	AREA	REG	GEAR	SPECON	2003	2004	2005	2006	2007	2008	2009
IIB	8c9a	3a	former 3ai and 3aii	none			264	240	216	194	175
IIB	8c9a	3a	former 3ai and 3aii	IIB71ab			365	365	365	365	365
IIB	8c9a	3ai	deleted	none			264	240			
IIB	8c9a	3ai	deleted	IIB71ab			365	365			
IIB	8c9a	3aii	deleted	none			264	240			
IIB	8c9a	3aii	deleted	IIB71ab			365	365			
IIB	8c9a	3b	former 3bi and 3bii	none			264	240	216	194	175
IIB	8c9a	3b	former 3bi and 3bii	IIB71a			365	365	365	365	365
IIB	8c9a	3bi	deleted	none			264	240			
IIB	8c9a	3bi	deleted	IIB71a			365	365			
IIB	8c9a	3bii	deleted	none			264	240			
IIB	8c9a	3bii	deleted	IIB71a			365	365			
IIB	8c9a	3c		none			264	240	216	194	175
IIB	8c9a	3c		IIB71a			365	365	365	365	365

7.2. Trend in effort 2000-2008 by derogation and by Member State

Effort information in kW*days and GT*days was provided by Portugal, Spain, France, England, Scotland, Germany, Ireland and Netherlands in the Divisions 8c and 9a for the years 2000-2008. Spanish data only contains information from the trips with landings of hake.

Accordingly to Annex IIB of Regulation 40/2008 in the context of the recovery plan for southern hake and *Nephrops* stocks, fishing vessels with overall length above 10 meters that have trawl nets with mesh sizes >32 mm or gillnets > 60 mm or bottom longlines may be present within the area for a maximum of 175 days during 2009 (Table I of the Annex II B).

If, during 2001, 2002 and 2003 these vessels fished less than 5 tonnes of hake and 2.5 of *Nephrops* per year they do not have this effort limitation, but are obliged not to exceed the same amounts in 2009.

The available effort data in terms of kW*days by Member State is given in Table 7.2.1. Information on trends in GTdays will be made available on the website:

https://stecf.jrc.ec.europa.eu/meetings/2009?p_p_id=62_INSTANCE_ujGU&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_ujGU_struts_action=%2Fjournal_articles%2Fview&_62_INSTANCE_ujGU_groupId=1416&_62_INSTANCE_ujGU_articleId=132840&_62_INSTANCE_ujGU_version=1.0. In addition to the 2007 regulation defined gear types 3.a (bottom trawler mesh size ≥32 mm), 3.b (gillnet ≥60 mm), 3.c (bottom longline) and the undefined (none), the tables include trammel nets under the coding “3t”, as they were found to contribute significantly to the static effort deployed.

Table 7.2.1 Trend in nominal effort (kW*days at sea) by Member State and existing derogations given in Table 1 of Annex IIB (Coun. Reg. 40/2008), 2000-2007. Derogations are sorted by gear, special condition (SPECON) and country. Data qualities are summarised in section 5.5.2 and Table 5.5.2.1. Note that the gear type 3t denotes the non-regulated (effort) trammel gear with all mesh sizes.

annex	reg_area	reg_gear	specon	country	2000	2001	2002	2003	2004	2005	2006	2007	2008
IIb	8c-9a	3a	IIB72ab	POR			7397	2849766	1070010	1655167	780905	343193	220900
IIb	8c-9a	3a	IIB72ab	SPN						160574	60727	2788655	4058230
IIb	8c-9a	3a	none	ENG						1277			
IIb	8c-9a	3a	none	FRA	109479	144150	149306	120457	126945	433605	363292	201997	298339
IIb	8c-9a	3a	none	IRL				13040			7632		
IIb	8c-9a	3a	none	POR			221495	5036232	5875367	4489470	6353789	9296058	8756682
IIb	8c-9a	3a	none	SPN			13952418	12131884	3498565	881064	871792	3557432	4707248
IIb	8c-9a	3b	IIB72ab	POR				49440	3132	94853	190386	242262	240408
IIb	8c-9a	3b	IIB72ab	SPN						6645	1505	328667	484494
IIb	8c-9a	3b	none	ENG							26652	1984	
IIb	8c-9a	3b	none	FRA	2550	5043	2486	1560	17185	96656	36790	48092	54230
IIb	8c-9a	3b	none	POR				73582	32523	141138	242080	724750	774867
IIb	8c-9a	3b	none	SCO							3234		
IIb	8c-9a	3b	none	SPN			747965	767461	310562	55743	9053	750681	1236800
IIb	8c-9a	3c	IIB72ab	POR	8115	544	15178	75082	49913	90422	201608	349956	188400
IIb	8c-9a	3c	IIB72ab	SPN						30600	32446	44393	47281
IIb	8c-9a	3c	none	ENG				8853			4928		
IIb	8c-9a	3c	none	FRA	724					506			11455
IIb	8c-9a	3c	none	IRL							1684	2472	
IIb	8c-9a	3c	none	POR	232394	222109	65736	438058	326896	569570	584751	335894	404039
IIb	8c-9a	3c	none	SPN			2539326	2156683	2746655	3019054	2785130	3268049	2174033
IIb	8c-9a	3t	none	FRA	2963		9622	1932	219		307		1466
IIb	8c-9a	3t	none	POR	180324	224602	232514	656517	1313899	1661078	1978644	1773400	1364519
IIb	8c-9a	3t	none	SPN			289725	305560	545784	555414	539863	554574	631379
IIb	8c-9a	none	none	ENG							3136		
IIb	8c-9a	none	none	FRA	157						987		
IIb	8c-9a	none	none	GER								15685	23373
IIb	8c-9a	none	none	IRL		1585	4281	2854					
IIb	8c-9a	none	none	POR	8359348	4460087	5122644	4422271	4889834	7156255	4824841	1849793	2102024
IIb	8c-9a	none	none	SPN			3011166	2924566	13978643	15137009	14008267	8042166	3797752

Differences between the 2008 and 2009 data submissions are given in Table 7.2.2.

Table 7.2.2 Differences in effort data submissions between 2008 and 2009 by Member Stae

REG GEAF	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
3a	IIB72ab	POR	0	0	0	0	0	-0.799	-0.879	-0.963
3a	IIB72ab	SPN	0	0	0	0	0	-0.782	-0.909	0.427
3a	none	ENG	0	0	0			0	0	0
3a	none	FRA	-0.516	-0.497	-0.67	-0.609	-0.487	-0.324	-0.596	-0.662
3a	none	IRL	0	0	0	-0.11	0	0	-0.024	0
3a	none	POR	0	0	-0.032	-0.23	0.282	0.511	9.136	40.249
3a	none	SPN	0		0.398	0.309	0.338	5.276	7.258	-0.061
3b	IIB72ab	POR	0	0	0	0	0	-0.708	-0.171	-0.666
3b	IIB72ab	SPN	0	0	0	0	0	-0.803	-0.804	-0.055
3b	none	ENG	0	0	0	0	0	0	0.892	0
3b	none	FRA	-0.597	-0.353	-0.57	-0.572	-0.411	-0.324	-0.476	-0.58
3b	none	POR	0	0		-0.587	0.108	-0.263	0.275	2.416
3b	none	SCO	0	0	0	0	0	0	0	0
3b	none	SPN	0		0.411	0.297	0.355	7.389	4.266	0.678
3c	IIB72ab	POR	0	0	0	0	0	0.093	1.703	2.823
3c	none	ENG	0	0	0	0.143	0	0	0	0
3c	none	FRA	-0.491	0				-0.477		
3c	none	IRL	0	0	0	0	0	0	-0.219	0.051
3c	none	POR	3.241	18.673	0.533	0.927	4.125	1.939	2.035	0.019
3c	none	SPN	0	0	33.596	13.444	17.405	15.991	11.576	6.795
3t	none	FRA	-0.279	0	-0.083	-0.619	-0.583	0	-0.621	0
3t	none	POR	-0.145	-0.178	-0.087	-0.02	0.408	-0.417	0.129	0.128
3t	none	SPN	0	0	2.85	2.864	2.688	3.372	2.96	2.442
none	none	FRA	-0.995						-0.948	
none	none	GER	0	0	0	0	0	0	0	-0.137
none	none	IRL	0	0	0.13	-0.387		0	0	0
none	none	POR	0.7	0.269	0.361	0.155	0.159	-0.468	0.072	1.517
none	none	SPN			3.455	1.945	0.576	0.453	0.442	0.732

Figure 7.2.1 shows effort trends for Portugal and Spain, the main players in the area. Portuguese trawlers, Spanish trawlers and longliners are the gears deploying more effort. Both trawl fleets show an increase trend since 2005. Both Member States report a large amount of effort under the category of unregulated gears (code “none”), which jeopardizes a proper analysis of effort trends and blurs the overall perspective. It's worth mentioning that this category contains the information reported as regulated gears without mesh size information.

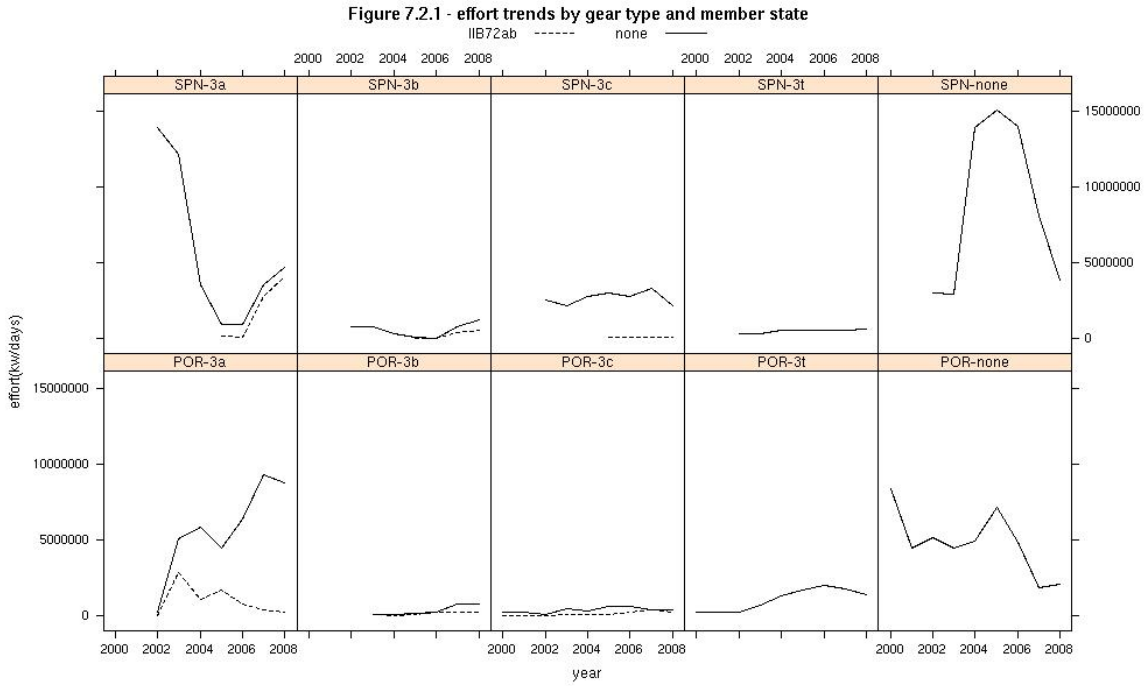


Fig. 7.2.1 Effort trends by gear type and Member State.

The Table 7.2.3 list the trend in effort by derogation since 2000 in terms of kW*days at sea, GT*days at sea and number of vessel, respectively are available on the web.

In 2005 about 65% of the effort was assigned to other gears than the regulated ones ("3t" and "none" gears), of which trammel nets ("3t") contribute 6% to the overall effort deployed. Since then the percentage of effort allocated to these categories has decreased and in 2008 trawlers under effort restrictions accounted for 44% of all effort deployed.

Between 2005 and 2008 passive gears (3b, 3c and 3t) accounted for approximately 20% of all effort. However, such results have a limited meaning regarding the fishing pressure executed by these fleets, once that kw/day does not take into account the number of hooks and area of the nets and so it's a poor indicator of the fishing activity.

Table 7.2.3 Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIB (Coun. Reg. 40/2008), 2000-2007. Derogations are sorted by gear and special condition (SPECON). Data qualities are summarised in section 5.5.2 and Table 5.5.2.1. Note that the gear type 3t denotes the non-regulated (effort) trammel gear with all mesh sizes.

annex	reg_area	reg_gear	specon	2000	2001	2002	2003	2004	2005	2006	2007	2008
IIb	8c-9a	3a	IIB72ab			7397	2849766	1070010	1815741	841632	3131848	4279130
IIb	8c-9a	3a	none	109479	144150	14323219	17301613	9500877	5805416	7596505	13055487	13762269
IIb	8c-9a	3b	IIB72ab				49440	3132	101498	191891	570929	724902
IIb	8c-9a	3b	none	2550	5043	750451	842603	360270	293537	317809	1525507	2065897
IIb	8c-9a	3c	IIB72ab	8115	544	15178	75082	49913	121022	234054	394349	235681
IIb	8c-9a	3c	none	233118	222109	2605062	2603594	3073551	3589130	3376493	3606415	2589527
IIb	8c-9a	3t	none	183287	224602	531861	964009	1859902	2216492	2518814	2327974	1997364
IIb	8c-9a	none	none	8359505	4461672	8138091	7349691	18868477	22293264	18837231	9907644	5923149

7.3. Trend in catch estimates 2003-2008 by derogation in management areas 8c and 9a

Portugal and Spain provided data on 2003-2008 landings, data from the former included information about special conditions. Spanish data include both trips with and without hake landings and from 2003 to 2005 contain also Gulf of Cádiz information. Portugal included a breakdown by age for hake, horse mackerel, mackerel, Spanish mackerel and blue whiting.

Discard data were available but were not considered due to problems with the reliability of the estimates. The Portuguese fleets showed a very low discard rate, *e.g.* the overall weight of hake discarded in 2008 was 114kg; while the Spanish trawl fleets show a huge fluctuation, between 0.4% in 2003 to 60% in 2008.

The contributions of the individual derogations to the overall landings can be taken from Tables 7.3.1. For brevity, the following sections represent the landings and discards by derogation in weight restricted to the following species, monk (ANF), hake (HKE), *Nephrops* (NEP), horse mackerel (JAX), mackerel (MAC), *Penaeus* shrimps (PEN), rays (RAJ) and blue whiting (WHB). However, additional data queries for other species can be provided depending on data provisions of the national catches by the experts or national institutes.

Tab. 7.3.1 (I) Landings (t), discards (t) and relative discard rates by species and derogation, 2003-2007. Regulation gears codes according to the EC Council Regulation No 41/2007: 3a) bottom trawls of mesh size ≥ 32 mm, 3b) gill-nets of mesh size ≥ 60 mm, 3c) bottom long-lines. Spanish otter and gillnet data are not in “3a” and “3b” groups, are in “none” group. Gear type “3t” denotes the non-regulated (effort) trammel gear with all mesh sizes, gear type “none” contains other gears and the gears not allocated.

reg_area	species	year	reg_gear	specon	landings	discards
8c-9a	ANF	2003	3a	IIB72ab	471.3027	0
8c-9a	ANF	2003	3a	none	263.3838	0
8c-9a	ANF	2003	3b	none	0.246	0
8c-9a	ANF	2003	3c	none	32.024	0
8c-9a	ANF	2003	3t	none	0.3	0
8c-9a	ANF	2003	none	none	8.965	0
8c-9a	ANF	2004	3a	IIB72ab	378.356	0
8c-9a	ANF	2004	3a	none	198.4358	0
8c-9a	ANF	2004	3b	none	15.599	0
8c-9a	ANF	2004	3c	none	7.954	0
8c-9a	ANF	2004	none	none	15.03	0
8c-9a	ANF	2005	3a	IIB72ab	151.9137	0
8c-9a	ANF	2005	3a	none	128.2131	0
8c-9a	ANF	2005	3b	none	35.336	0
8c-9a	ANF	2005	3c	none	0.407	0
8c-9a	ANF	2005	none	none	29.178	0
8c-9a	ANF	2006	3a	IIB72ab	82.31582	0
8c-9a	ANF	2006	3a	none	123.2326	0
8c-9a	ANF	2006	3b	none	3.889	0
8c-9a	ANF	2006	3c	none	2.327	0
8c-9a	ANF	2006	none	none	38.714	0
8c-9a	ANF	2007	3a	IIB72ab	86.08247	0
8c-9a	ANF	2007	3a	none	192.1646	0
8c-9a	ANF	2007	3b	none	5.405	0
8c-9a	ANF	2007	3c	none	2.281	0
8c-9a	ANF	2007	none	none	1.167	0
8c-9a	ANF	2008	3a	IIB72ab	35.32991	0
8c-9a	ANF	2008	3a	none	121.1649	0
8c-9a	ANF	2008	3b	none	6.335	0
8c-9a	ANF	2008	3c	none	0.0442	0
8c-9a	ANF	2008	3t	none	0.055	0
8c-9a	ANF	2008	none	none	2.7255	0
8c-9a	HKE	2003	3a	IIB72ab	1636.71	0
8c-9a	HKE	2003	3a	none	1215.267	4
8c-9a	HKE	2003	3b	IIB72ab	361.3263	0
8c-9a	HKE	2003	3b	none	228.9023	0
8c-9a	HKE	2003	3c	IIB72ab	5.27872	0
8c-9a	HKE	2003	3c	none	160.1034	0
8c-9a	HKE	2003	3t	none	52.706	0
8c-9a	HKE	2003	none	none	452.1443	0
8c-9a	HKE	2004	3a	IIB72ab	1876.399	1.01
8c-9a	HKE	2004	3a	none	823.8804	33.04
8c-9a	HKE	2004	3b	IIB72ab	446.6221	1.01
8c-9a	HKE	2004	3b	none	242.0883	0.02
8c-9a	HKE	2004	3c	IIB72ab	8.348634	5.17
8c-9a	HKE	2004	3c	none	138.7731	0
8c-9a	HKE	2004	3t	none	119.272	0.13
8c-9a	HKE	2004	none	none	444.0479	0.21
8c-9a	HKE	2005	3a	IIB72ab	2012.852	3.11
8c-9a	HKE	2005	3a	none	758.9875	88.1
8c-9a	HKE	2005	3b	IIB72ab	517.2319	12.18
8c-9a	HKE	2005	3b	none	328.6373	0.15
8c-9a	HKE	2005	3c	IIB72ab	34.78367	0.06
8c-9a	HKE	2005	3c	none	200.7133	6.06
8c-9a	HKE	2005	3t	none	125.649	0.33
8c-9a	HKE	2005	none	none	680.4349	0.47
8c-9a	HKE	2006	3a	IIB72ab	2012.866	6.06
8c-9a	HKE	2006	3a	none	1516.349	780.06
8c-9a	HKE	2006	3b	IIB72ab	424.0718	5.12
8c-9a	HKE	2006	3b	none	405.7406	0.1
8c-9a	HKE	2006	3c	IIB72ab	47.54433	0.04
8c-9a	HKE	2006	3c	none	195.1714	0.04
8c-9a	HKE	2006	3t	none	209.719	0.22
8c-9a	HKE	2006	none	none	559.3734	0.35
8c-9a	HKE	2007	3a	IIB72ab	1654.706	6.09
8c-9a	HKE	2007	3a	none	1467.586	1522.2
8c-9a	HKE	2007	3b	IIB72ab	457.3433	2.21
8c-9a	HKE	2007	3b	none	760.2409	0.21
8c-9a	HKE	2007	3c	IIB72ab	26.89642	0.07
8c-9a	HKE	2007	3c	none	208.8776	0.07
8c-9a	HKE	2007	3t	none	238.118	0.32
8c-9a	HKE	2007	none	none	230.0328	9.59
8c-9a	HKE	2008	3a	IIB72ab	1725.195	2.06
8c-9a	HKE	2008	3a	none	1756.85	288.18
8c-9a	HKE	2008	3b	IIB72ab	551.4593	20.12
8c-9a	HKE	2008	3b	none	1104.504	13.14
8c-9a	HKE	2008	3c	IIB72ab	8.096912	0.05
8c-9a	HKE	2008	3c	none	448.3309	0.05
8c-9a	HKE	2008	3t	none	104.8332	0.25
8c-9a	HKE	2008	none	none	243.4022	17.23

Table 7.3.1 continued.

reg_area	species	year	reg_gear	specon	landings	discards
8c-9a	JAX	2003	3a	IIB72ab	9584.529	0
8c-9a	JAX	2003	3a	none	2191.184	0
8c-9a	JAX	2003	3b	IIB72ab	6.703	0
8c-9a	JAX	2003	3b	none	1.897	0
8c-9a	JAX	2003	3c	none	8.778	0
8c-9a	JAX	2003	3t	none	0.203	0
8c-9a	JAX	2003	none	none	3755.41	0
8c-9a	JAX	2004	3a	IIB72ab	11806.9	0
8c-9a	JAX	2004	3a	none	2186.609	0
8c-9a	JAX	2004	3b	IIB72ab	3.328872	0
8c-9a	JAX	2004	3b	none	8.683394	0
8c-9a	JAX	2004	3c	IIB72ab	0.093797	0
8c-9a	JAX	2004	3c	none	35.02022	0
8c-9a	JAX	2004	3t	none	0.906083	0
8c-9a	JAX	2004	none	none	4092.642	0
8c-9a	JAX	2005	3a	IIB72ab	10223.89	0
8c-9a	JAX	2005	3a	none	2163.28	0
8c-9a	JAX	2005	3b	IIB72ab	11.84243	0
8c-9a	JAX	2005	3b	none	18.97933	0
8c-9a	JAX	2005	3c	none	18.71085	0
8c-9a	JAX	2005	3t	none	0.189442	0
8c-9a	JAX	2005	none	none	3879.63	0
8c-9a	JAX	2006	3a	IIB72ab	10340.65	0
8c-9a	JAX	2006	3a	none	3017.945	0
8c-9a	JAX	2006	3b	IIB72ab	11.96785	0
8c-9a	JAX	2006	3b	none	28.81605	0
8c-9a	JAX	2006	3c	none	9.878943	0
8c-9a	JAX	2006	3t	none	0.652629	0
8c-9a	JAX	2006	none	none	3791.146	0
8c-9a	JAX	2007	3a	IIB72ab	9223.779	0
8c-9a	JAX	2007	3a	none	2855.901	0
8c-9a	JAX	2007	3b	IIB72ab	9.577642	0
8c-9a	JAX	2007	3b	none	47.40635	0
8c-9a	JAX	2007	3c	IIB72ab	3.095089	0
8c-9a	JAX	2007	3c	none	16.98053	0
8c-9a	JAX	2007	3t	none	1.089659	0
8c-9a	JAX	2007	none	none	3956.204	0
8c-9a	JAX	2008	3a	IIB72ab	7419.155	0
8c-9a	JAX	2008	3a	none	2596.711	0
8c-9a	JAX	2008	3b	IIB72ab	25.259	0
8c-9a	JAX	2008	3b	none	64.01195	7
8c-9a	JAX	2008	3c	none	8.9624	0
8c-9a	JAX	2008	3t	none	1.005	0
8c-9a	JAX	2008	none	none	4405.076	0
8c-9a	MAC	2003	3a	IIB72ab	6803.828	0
8c-9a	MAC	2003	3a	none	4324.532	0
8c-9a	MAC	2003	3b	IIB72ab	29.112	0
8c-9a	MAC	2003	3b	none	23.8941	0
8c-9a	MAC	2003	3c	IIB72ab	77.65	0
8c-9a	MAC	2003	3c	none	3601.906	0
8c-9a	MAC	2003	3t	none	30.1782	0
8c-9a	MAC	2003	none	none	3191.204	0
8c-9a	MAC	2004	3a	IIB72ab	7617.714	0
8c-9a	MAC	2004	3a	none	4062.104	0
8c-9a	MAC	2004	3b	IIB72ab	28.76878	0
8c-9a	MAC	2004	3b	none	47.72849	0
8c-9a	MAC	2004	3c	IIB72ab	219.5696	0
8c-9a	MAC	2004	3c	none	6084.556	0
8c-9a	MAC	2004	3t	none	33.35397	0
8c-9a	MAC	2004	none	none	3419.277	0
8c-9a	MAC	2005	3a	IIB72ab	4035.531	0
8c-9a	MAC	2005	3a	none	2691.322	0
8c-9a	MAC	2005	3b	IIB72ab	12.29033	0
8c-9a	MAC	2005	3b	none	17.07109	0
8c-9a	MAC	2005	3c	IIB72ab	90.90771	0
8c-9a	MAC	2005	3c	none	3343.894	0
8c-9a	MAC	2005	3t	none	17.51397	0
8c-9a	MAC	2005	none	none	3160.803	0
8c-9a	MAC	2006	3a	IIB72ab	4144.339	0
8c-9a	MAC	2006	3a	none	2548.696	0
8c-9a	MAC	2006	3b	IIB72ab	7.943668	0
8c-9a	MAC	2006	3b	none	23.16383	0
8c-9a	MAC	2006	3c	IIB72ab	87.64975	0
8c-9a	MAC	2006	3c	none	4257.199	0
8c-9a	MAC	2006	3t	none	19.30249	0
8c-9a	MAC	2006	none	none	3690.421	0
8c-9a	MAC	2007	3a	IIB72ab	2650.144	0
8c-9a	MAC	2007	3a	none	2619.985	0
8c-9a	MAC	2007	3b	IIB72ab	3.764641	0
8c-9a	MAC	2007	3b	none	24.01217	0
8c-9a	MAC	2007	3c	IIB72ab	120.3209	0
8c-9a	MAC	2007	3c	none	5765.059	0
8c-9a	MAC	2007	3t	none	23.98439	0
8c-9a	MAC	2007	none	none	7504.762	0
8c-9a	MAC	2008	3a	IIB72ab	3116.445	0
8c-9a	MAC	2008	3a	none	2750.154	0
8c-9a	MAC	2008	3b	IIB72ab	8.701206	0
8c-9a	MAC	2008	3b	none	44.2248	2
8c-9a	MAC	2008	3c	IIB72ab	127.2161	0
8c-9a	MAC	2008	3c	none	4134.849	0
8c-9a	MAC	2008	3t	none	21.43737	0
8c-9a	MAC	2008	none	none	6128.664	0

Table 7.3.1 continued.

reg_area	species	year	reg_gear	specon	landings	discards
8c-9a	NEP	2003	3a	IIB72ab	94.545	0
8c-9a	NEP	2003	3a	none	46.76	0
8c-9a	NEP	2003	none	none	12.785	0
8c-9a	NEP	2004	3a	IIB72ab	64.907	0
8c-9a	NEP	2004	3a	none	37.323	0
8c-9a	NEP	2004	3c	IIB72ab	0.032	0
8c-9a	NEP	2004	none	none	6.419	0
8c-9a	NEP	2005	3a	IIB72ab	96.419	0
8c-9a	NEP	2005	3a	none	56.287	0
8c-9a	NEP	2005	3b	IIB72ab	0.086	0
8c-9a	NEP	2005	3b	none	0.595	0
8c-9a	NEP	2005	3c	IIB72ab	0.051	0
8c-9a	NEP	2005	3c	none	0.002	0
8c-9a	NEP	2005	3t	none	0.698	0
8c-9a	NEP	2005	none	none	81.144	0
8c-9a	NEP	2006	3a	IIB72ab	6.79	0
8c-9a	NEP	2006	3a	none	168.689	0
8c-9a	NEP	2006	3b	none	0.305	0
8c-9a	NEP	2006	3c	IIB72ab	0.185	0
8c-9a	NEP	2006	3c	none	0.01	0
8c-9a	NEP	2006	3t	none	0.747	0
8c-9a	NEP	2006	none	none	43.564	0
8c-9a	NEP	2007	3a	IIB72ab	0.348	0
8c-9a	NEP	2007	3a	none	204.311	0
8c-9a	NEP	2007	3b	IIB72ab	0.004	0
8c-9a	NEP	2007	3b	none	0.594	0
8c-9a	NEP	2007	3c	IIB72ab	0.388	0
8c-9a	NEP	2007	3t	none	0.265	0
8c-9a	NEP	2007	none	none	8.576	0
8c-9a	NEP	2008	3a	IIB72ab	1.734	0
8c-9a	NEP	2008	3a	none	167.2016	0
8c-9a	NEP	2008	3b	none	0.1464	0
8c-9a	NEP	2008	3c	IIB72ab	0.02	0
8c-9a	NEP	2008	3t	none	0.1045	0
8c-9a	NEP	2008	none	none	11.0761	0
8c-9a	PEN	2005	none	none	0.02	0
8c-9a	PEN	2007	3a	none	0.179	0
8c-9a	PEN	2007	3t	none	0.004	0
8c-9a	PEN	2007	none	none	0.478	0
8c-9a	RAJ	2003	3a	none	0.118	0
8c-9a	RAJ	2003	3b	none	0.023	0
8c-9a	RAJ	2003	3c	none	0.029	0
8c-9a	RAJ	2003	3t	none	0.015	0
8c-9a	RAJ	2003	none	none	0.07	0
8c-9a	RAJ	2004	3a	none	0.486	0
8c-9a	RAJ	2004	3c	none	0.86	0
8c-9a	RAJ	2004	3t	none	0.111	0
8c-9a	RAJ	2004	none	none	0.58	0
8c-9a	RAJ	2005	3a	none	12.354	0
8c-9a	RAJ	2005	3b	none	0.777	0
8c-9a	RAJ	2005	3c	none	4.072	0
8c-9a	RAJ	2005	3t	none	16.774	0
8c-9a	RAJ	2005	none	none	12.715	0
8c-9a	RAJ	2006	3a	none	37.724	0
8c-9a	RAJ	2006	3b	none	7.593	0
8c-9a	RAJ	2006	3c	none	4.622	0
8c-9a	RAJ	2006	3t	none	37.755	0
8c-9a	RAJ	2006	none	none	18.122	0
8c-9a	RAJ	2007	3a	none	93.042	0
8c-9a	RAJ	2007	3b	none	14.0324	0
8c-9a	RAJ	2007	3c	none	18.047	0
8c-9a	RAJ	2007	3t	none	107.018	0
8c-9a	RAJ	2007	none	none	7.3379	0
8c-9a	RAJ	2008	3a	none	129.764	0
8c-9a	RAJ	2008	3b	none	7.811	0
8c-9a	RAJ	2008	3c	none	171.0825	0
8c-9a	RAJ	2008	3t	none	98.3768	0
8c-9a	RAJ	2008	none	none	81.3792	0
8c-9a	WHB	2003	3a	IIB72ab	14394.88	0
8c-9a	WHB	2003	3a	none	10182.16	0
8c-9a	WHB	2003	3b	IIB72ab	1.93	0
8c-9a	WHB	2003	3b	none	0.0515	0
8c-9a	WHB	2003	3c	IIB72ab	7.65	0
8c-9a	WHB	2003	3c	none	31.87	0
8c-9a	WHB	2003	3t	none	1.02	0
8c-9a	WHB	2003	none	none	1045.87	0
8c-9a	WHB	2004	3a	IIB72ab	18479.26	0
8c-9a	WHB	2004	3a	none	11046.59	0
8c-9a	WHB	2004	3b	IIB72ab	0.167045	0
8c-9a	WHB	2004	3b	none	2.572499	0
8c-9a	WHB	2004	3c	IIB72ab	17.59545	0
8c-9a	WHB	2004	3c	none	18.21473	0
8c-9a	WHB	2004	3t	none	1.612934	0
8c-9a	WHB	2004	none	none	1659.391	0
8c-9a	WHB	2005	3a	IIB72ab	28207.95	0
8c-9a	WHB	2005	3a	none	13213.09	0
8c-9a	WHB	2005	3b	IIB72ab	0.049381	0
8c-9a	WHB	2005	3b	none	1.898559	0
8c-9a	WHB	2005	3c	IIB72ab	0.209044	0
8c-9a	WHB	2005	3c	none	30.62564	0
8c-9a	WHB	2005	3t	none	3.53685	0
8c-9a	WHB	2005	none	none	2886.477	0
8c-9a	WHB	2006	3a	IIB72ab	27699.46	0
8c-9a	WHB	2006	3a	none	16934.35	0
8c-9a	WHB	2006	3b	IIB72ab	0.41726	0
8c-9a	WHB	2006	3b	none	2.034071	0
8c-9a	WHB	2006	3c	IIB72ab	9.755621	0
8c-9a	WHB	2006	3c	none	38.90032	0
8c-9a	WHB	2006	3t	none	2.729283	0
8c-9a	WHB	2006	none	none	1380.664	0
8c-9a	WHB	2007	3a	IIB72ab	15838.55	0
8c-9a	WHB	2007	3a	none	13172.21	0
8c-9a	WHB	2007	3b	IIB72ab	0.917686	0
8c-9a	WHB	2007	3b	none	2.511327	0
8c-9a	WHB	2007	3c	IIB72ab	3.680656	0
8c-9a	WHB	2007	3c	none	23.71506	0
8c-9a	WHB	2007	3t	none	1.167651	0
8c-9a	WHB	2007	none	none	834.4146	0
8c-9a	WHB	2008	3a	IIB72ab	10670.49	0
8c-9a	WHB	2008	3a	none	11711.21	0
8c-9a	WHB	2008	3b	IIB72ab	0.41	0
8c-9a	WHB	2008	3b	none	2.24825	0
8c-9a	WHB	2008	3c	IIB72ab	0.283	0
8c-9a	WHB	2008	3c	none	14.63485	0
8c-9a	WHB	2008	3t	none	0.1728	0
8c-9a	WHB	2008	none	none	367.1545	0

Figure 7.3.1 shows landings of hake, *Nephrops* and anglerfish by Member State and derogation. Nephrops are not reported by the Spanish fleets. The Portuguese trawlers are the biggest players of this fishery. Most effort deployed by this fleet is under effort restrictions. Regarding hake, the figure shows that the Portuguese fleets have most landings under effort restrictions while the Spanish trawl and gillnet fleets have a major part of their landings without effort restrictions. However, the coverage of this data set is low which may invalidate the analysis. In 2008 and 2007 the landings of hake from Spain cover about 30% of the landings estimated by ICES (2009) and Portugal about 60%. A part of this discrepancy is due to the landings of small scale vessels (<10m) that were not reported. Landings of anglerfish are low and do not allow any analysis.

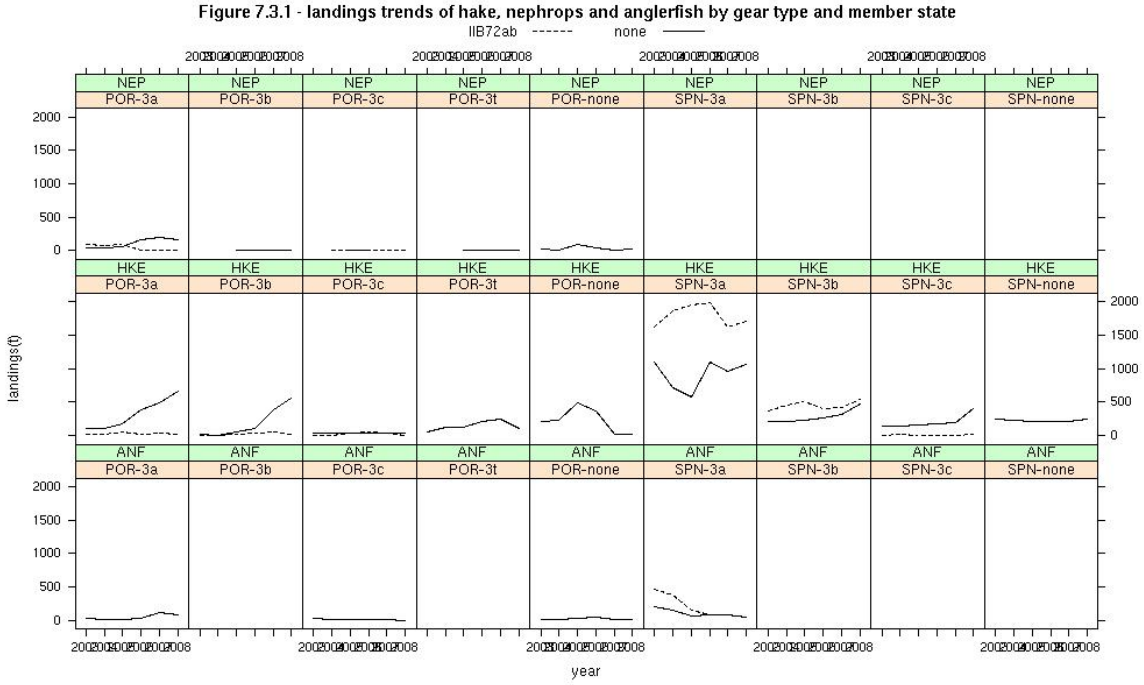


Fig. 7.3.1 Trends in landings of hake, Nephrops and anglerfish by Member State.

The data given in the table 7.3.1 form the basis of the Figure 7.3.2 displaying the relative catch compositions by derogations for the years 2003-2008. The lack of dark bars (representing discards) further indicates that data were not provided.

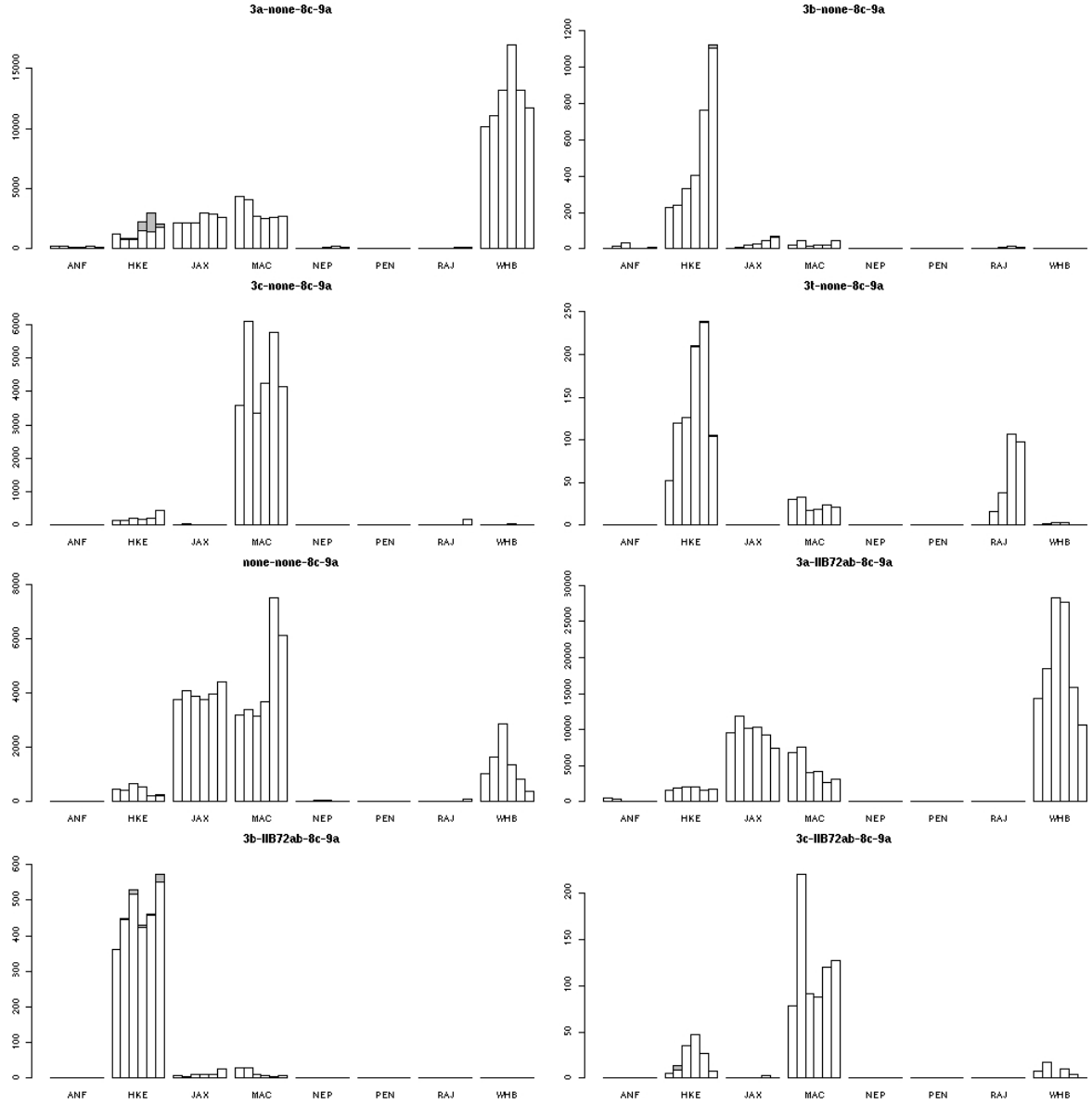


Figure 7.3.2 Relative catch compositions by derogations for the years 2003-2008.

The plots in Figure 7.3.2 show that trawlers under effort control have a higher percentage of hake in their catch composition than those operating under special conditions (IIB72ab). In both cases the most landed species is blue whiting. In the case of gill nets the most landed species is hake and the vessels under effort restrictions show a strong increase of hake landings since 2006. The data available for long liners needs revision as large quantities of mackerel are reported. Trammel nets show a large percentage of hake and rays.

7.4. Trend in CPUE of hake and Nephrops

STECF-SGMOS notes that the problems found in discards data submitted did not allow CPUE evaluation.

7.5. Ranked derogations according to relative contributions to hake and Nephrops catches

The problems with discard information regarding the fisheries in ICES Div. 8c and 9a prevents a precise review of the effects of the regulated gears. General comments about the relative importance of hake, *Nephrops* and anglerfish were already made above.

7.6. Unregulated gears

Detailed information on unregulated gears is not presented.

7.7. Sampling plans, fishing effort and catches (landings and discards) of hake, Nephrops and associated species of vessels <10m

Since 2003 Portugal has carried out a specific sampling plan to collect data on the activity of the small scale fleet (<10m vessels) operating in continental waters. The data is collected with a stratified random strategy by skippers' interviews, and provides information about catches by species and effort. This sampling plan is under the scope of Reg.(EC) 1639/2001 and the results were presented on the annual reports requested by the DGMARE. There were, however, no data provided to STECF-SGMOS.

7.8. Spatial distribution patterns of effective fishing effort of trawled gears 2003-2006

Portugal submitted effort by ICES rectangle. Figure 7.8.1 shows the distribution of effort for specon “none” and regulated gears.

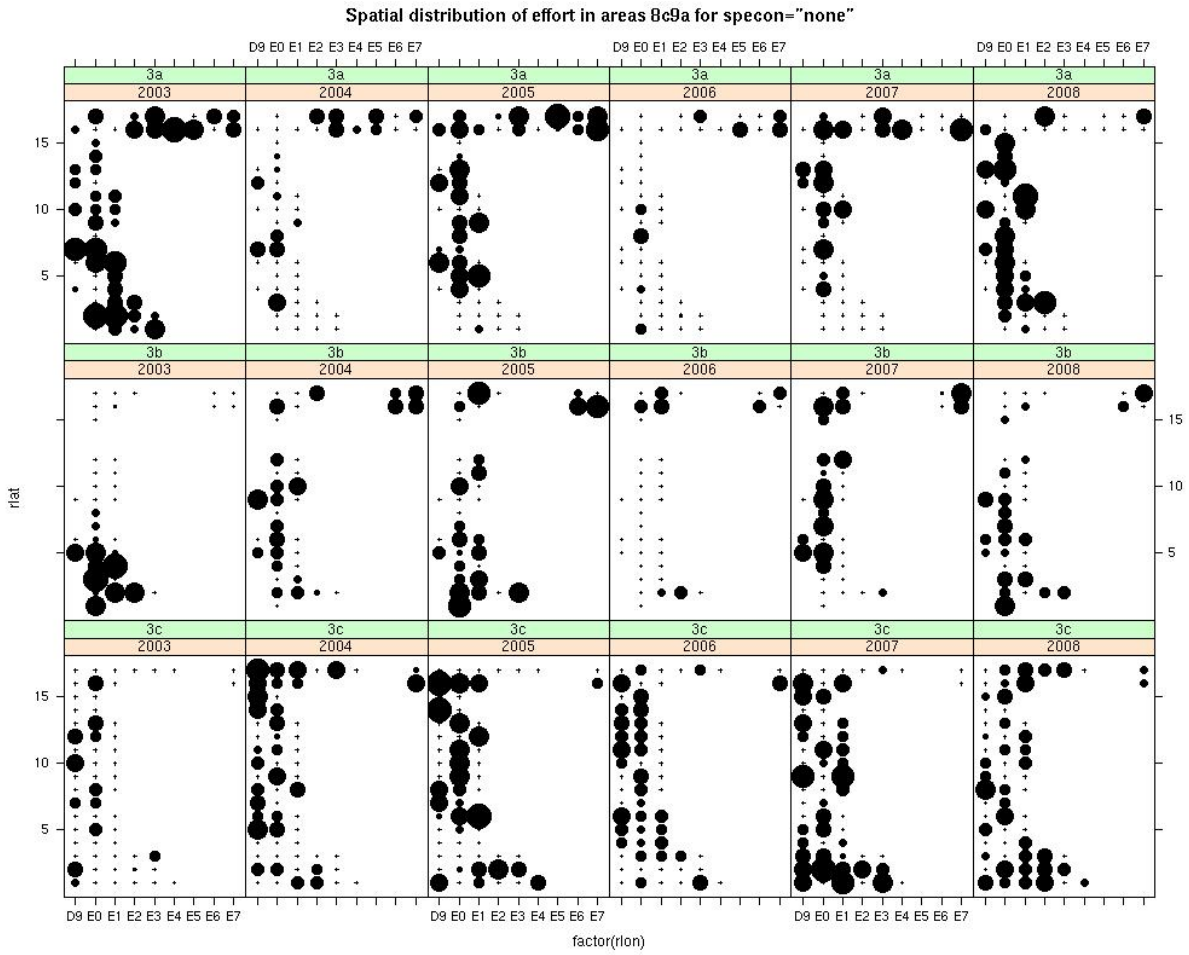


Figure 7.8.1 shows the distribution of effort for specon “none” and regulated gears.

8. REVIEW OF ANNEX IIC OF REGULATION 43/2009 IN THE CONTEXT OF THE RECOVERY OF WESTERN CHANNEL SOLE (PROPOSAL COM (2003) 819 FINAL)

8.1. General considerations regarding the derogations and special conditions

STECF-SGMOS notes that assignment of derogations and special conditions is based on best expert knowledge. Data errors may exist regarding the huge data bases and the special knowledge required to deal with them (grouping and exact formulation of data queries).

STECF-SGMOS noted two years ago a change in Annexes IIC to Council Reg. 41/2007 for 2007 as compared to the Annex IIC to 51/2006 which removed the special conditions IIC71a and IIC71b to static nets <220mm (3b) . STECF-SGMOS further notes that there were no special derogations added to Annex IIC of Council Reg. 40/2008 and Annex IIC of Council Reg. 43/2009.

The following Table 8.1.1 lists the historic developments of days at sea by vessel and derogations.

Table 8.1.1 – Western Channel - Historic trends in days at sea by vessel specified in the Council Regulations since 2005.

Annex	AREA	REG GEAR	SPECON	2003	2004	2005	2006	2007	2008	2009
IIc	7e	3a	none			240	216	192	192	192
IIc	7e	3b	none			240	216	192	192	192
IIc	7e	3b deleted	ICC71ab				365			

8.2. 8.2 Trend in effort 2000-2008 by derogation and by Member State

The dominating fleet from the 2 existing derogations in 7e (3a and 3b) is by far the English beam trawl fleet with percentages in excess of 66% of the effort deployed (Table 8.2.1 and Figure 8.2.1). The other fleets involved are the French static gear fleet with about 10% of the deployed effort and the Belgian beam trawl fleet with an increasing trend from less then 1% in 2000 up to about 18% in 2007 followed by a decrease to 13% in 2008. STECF-SGMOS however notes that about 82% of the overall effort deployed could not be allocated to regulated gear (e.g. lack of mesh size, otter- and pelagic trawls). The “total” trend in Figure 8.2.1 is therefore highly influenced by the none regulated gear group. The composition of the unregulated gears can be found in section 8.6.

The difference between the data provided in 2008 and 2009 is shown in Table 8.2.2 as a percentage. A positive value should be interpreted as a higher value in 2009 compared to 2008 where a negative value means that the 2009 data is lower than the 2008 value. The main differences are apparent for the Belgian, the French, the Netherlands and Spanish fleets. However, it should also be noted that the large discrepancies for some fleets (e.g. Irish beam and Belgian none regulated gear) are revisions of small effort contribution and do not change the overall picture of the effort deployed in area 7e. The reason for some of the important revisions is explained below.

For Belgium the effort calculated in last year's report as kW*fishing hours have been corrected to kW*days at sea taking into account the days spent in an area as a fraction of a day multiplied by the kW of the vessel. French effort databases are under re-development and some of the changes may ariase from this, results in 2010 should be more stable.m For the Netherlands, the data provided in 2009 has been based on logbook information instead of VMS data which formed the basis for the data provided in 2008. As there was no Spanish expert present at the meeting, STECF-SGMOS was not able to clarify the differences for the Spanish fleets.

Information on GT*days at sea and the number of vessels active in 7e are not presented in this report but are available on the JRC website:

https://stecf.jrc.ec.europa.eu/meetings/2009?p_p_id=62_INSTANCE_ujGU&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_ujGU_struts_action=%2Fjournal_articles%2Fview&_62_INSTANCE_ujGU_groupId=1416&_62_INSTANCE_ujGU_articleId=132840&_62_INSTANCE_ujGU_version=1.0.

The trends in the nominal effort of the 2 derogations (3a and 3b) are illustrated in Table 8.2.3. The beam trawl fleets increased to 29% above the 2002 level 2004 and stayed around 25% until 2007. In 2008 it dropped to 10% above the 2002 level. The static nets increased steadily over the time series to about 15% above the 2002 level in the years 2003-2005. Since then this category dropped sharply to 29% under the 2002 level in 2006. In 2007 and 2008 the effort dropped further down to 54% and 35% respectively under the 2002 level.

Table 8.2.1 – Western Channel - Trend in nominal effort (kW*days at sea) by existing derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2009) and Member State, 2000-2008. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in Section 5 of the report.

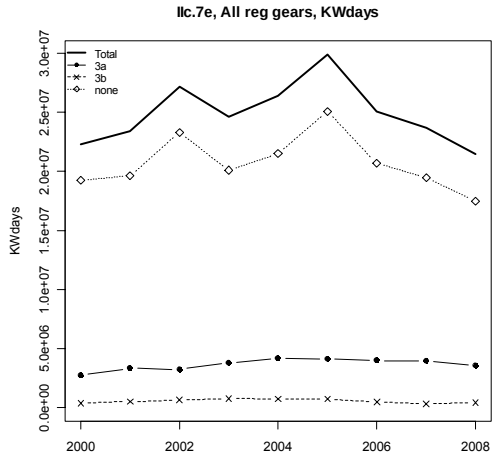
ANNEX	REG AREA	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
IIc	7e	3a	none	BEL	20996	62198	138893	211491	550019	580016	565875	746016	523556
IIc	7e	3a	none	ENG	2576121	3030424	2907916	3374514	3206806	3227096	3283897	3021075	2865492
IIc	7e	3a	none	FRA	811	43530	17272	34940	151249	150391	97912	139113	159387
IIc	7e	3a	none	GBJ	90183	171795	151338	122867	209969	118973			
IIc	7e	3a	none	IRL				23606	34577	16518	6474	16610	2143
IIc	7e	3a	none	NED	14710								
IIc	7e	3a	none	SCO								3666	
IIc	**7e**	**3a Total**	**none**		**2702821**	**3307947**	**3215419**	**3767418**	**4152620**	**4092994**	**3954158**	**3926480**	**3550578**
IIc	7e	3b	none	ENG	272583	355504	265270	323618	206294	178818	153434	103278	104187
IIc	7e	3b	none	FRA	59485	124865	369285	417165	501519	530708	298463	187018	295834
IIc	7e	3b	none	SCO							1215	3240	9315
IIc	**7e**	**3b Total**	**none**		**332068**	**480369**	**634555**	**740783**	**707813**	**709526**	**453112**	**293536**	**409336**
IIc	7e	none	none	BEL					4338	6638	14046	12085	34143
IIc	7e	none	none	ENG	4714059	4210059	4038275	3797681	4176977	4261921	4138665	4149225	3679937
IIc	7e	none	none	FRA	10708807	12182037	17471984	14241889	15753525	19109722	14784946	13630797	11913207
IIc	7e	none	none	GBG	124892	149729	43944		75868	57128	45780	57710	28376
IIc	7e	none	none	GBJ	186417	148492	106420	57884	1476	8657	28217	42005	34310
IIc	7e	none	none	GER	267076	207404	133473	94385	106234	92768	29865		36994
IIc	7e	none	none	IOM	13000	21138	16978				19902	1116	778
IIc	7e	none	none	IRL	498807	151078	151015	202543	347597	152539	3880	23340	1023
IIc	7e	none	none	NED	1895518	1805343	575630	1008710	449855	632891	956066	894614	1073200
IIc	7e	none	none	NIR					1302				
IIc	7e	none	none	SCO	856787	744381	775375	705195	607935	691419	585805	595030	606253
IIc	7e	none	none	SPN						75213	82733	83079	76804
IIc	**7e**	**none Total**	**none**		**19265363**	**19619661**	**23313094**	**20108287**	**21525107**	**25088896**	**20689905**	**19489001**	**17485025**
IIc	**7e**	**Grand Total**	**none**		**22300252**	**23407977**	**27163068**	**24616488**	**26385540**	**29891416**	**25097175**	**23709017**	**21444939**

Table 8.2.2 – Western Channel – Percentage difference in effort (kW*days at sea) by existing derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2009) and Member State, 2003-2007 between the data provided in 2008 and 2009. Derogations are sorted by gear, special condition (SPECON), and country. Data qualities are summarised in section 5.

ANNEX	REG AREA	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
IIc	7e	3a	none	BEL	62%	100%	49%	56%	102%	94%	73%	71%
IIc	7e	3a	none	ENG	0%	0%	0%	0%	0%	0%	0%	0%
IIc	7e	3a	none	FRA	0%	48%	0%	75%	22%	7%	-31%	-28%
IIc	7e	3a	none	GBJ	0%	0%	0%	0%	0%	-2%	0%	0%
IIc	7e	3a	none	IRL	0%	0%	0%	1%	-2%	406%	27%	22%
IIc	7e	3a	none	NED	0%	0%	0%	0%		0%	0%	0%
IIc	7e	3a	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
IIc	7e	3b	none	ENG	4%	4%	6%	4%	2%	2%	2%	8%
IIc	7e	3b	none	FRA	-13%	-22%	-26%	-22%	-26%	-25%	-49%	-55%
IIc	7e	3b	none	SCO	0%	0%	0%	0%	0%	0%	0%	0%
IIc	7e	none	none	BEL	0%		0%	0%	0%	5880%	1298%	525%
IIc	7e	none	none	ENG	1%	1%	1%	1%	1%	0%	0%	-1%
IIc	7e	none	none	FRA	-18%	-20%	-17%	-19%	-22%	-20%	-29%	-32%
IIc	7e	none	none	GBG	0%	0%	0%	0%	0%	0%	0%	0%
IIc	7e	none	none	GBJ	0%	0%	0%	0%	0%	0%	0%	0%
IIc	7e	none	none	GER	-1%	5%	13%	0%	8%	0%	-29%	0%
IIc	7e	none	none	IOM	0%	0%	0%	0%	0%	0%	0%	0%
IIc	7e	none	none	IRL	-1%	0%	-3%	13%	2%	1%	0%	7%
IIc	7e	none	none	NED	0%	0%	-54%	-43%	-64%	-58%	-48%	-36%
IIc	7e	none	none	NIR	0%	0%	0%	0%	0%	0%	0%	0%
IIc	7e	none	none	SCO	-1%	-1%	0%	0%	0%	0%	0%	0%
IIc	7e	none	none	SPN	0%	0%				107%	201%	184%

Table 8.2.3 – Western Channel - Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2009), 2000-2008. Derogations are sorted by gear and special condition (SPECON). Data qualities are summarised in section 5.

ANNEX	REG AREA	REG GEAR	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008	Rel. Change to 2002
IIc	7e	3a	none	2702821	3307947	3215419	3767418	4152620	4092994	3954158	3926480	3550578	0.10
IIc	7e	3b	none	332068	480369	634555	740783	707813	709526	453112	293536	409336	-0.35
IIc	7e	none	none	19265363	19619661	23313094	20108287	21525107	25088896	20689905	19489001	17485025	-0.25
Sum				**22300252**	**23407977**	**27163068**	**24616488**	**26385540**	**29891416**	**25097175**	**23709017**	**21444939**	**-0.21**



Figures 8.2.1 – Western Channel -Trend in nominal effort (kW*days at sea) by derogations given in Table 1 of Annex IIC (Coun. Reg. 43/2009), 2000-2008. Derogations are sorted by gear and special condition (SPECON). Data qualities are summarised in section 5.5.2 and Table 5.5.2.1. 3a represents beam trawls of mesh size ≥ 80 mm and 3b represents static nets with mesh size < 220 mm.

8.3. Trend in catch estimates 2003-2008 by derogation in management area 7e

Although the data available for the review of Annex IIC of regulation 43/2009 comes from all countries involved in the fisheries, there is little information on discards for most of the species. Only very sparse discard information is available for anglerfish, cod, haddock and whiting. The lack of discard information on plaice in particular, increases the likelihood of incorrect assumptions on total removals for that species.

The following Table 8.3.1 lists the landings, discards and discard rates for the main species by derogations. For brevity, the following sections represent the landings and discards by derogation in weight for a subset of the species caught ie. anglerfish (ANF), cod (COD), haddock (HAD), hake, (HKE), *nephrops* (NEP), plaice (PLE), saithe (POK), sole (SOL), and whiting (WHG). However, additional data queries for other species can be made depending on data provisions of the national catches by the experts or national institutes. The data given in the table form the basis of Figure 8.3.1 displaying the relative catch compositions by derogations for the years 2003-2008. The lack of the dark bars representing discards also indicates lack of observations rather than low discard numbers.

Figure 8.3.1 shows that in the beam trawl fleets (3a) landings of anglerfish and sole have substantially increased in the last 4 years. Plaice landings have declined over the whole period where the landings of the other main species have been rather stable. Landings by static nets (derogations 3b) are dominated by anglerfish which show a sharp decline in the last 4 years. The category “none none” which is responsible for most of the landings (except for sole, plaice and partly anglerfish) consist mainly of otter trawls (see also section 8.6). Apart from a slight increase in cod landings and a slight decrease in hake landings, the main other species have fluctuated around the same levels in the last 6 years. Lists of landings and discards at age by derogation for the main species are not shown in this report as the weight at ages were not provided by any country apart for hake landings in 3 years by one country. Therefore the correctness of the numbers at age for the main species could not be validated and STECF-SGMOS decided not to include these numbers in the report.

Tab. 8.3.1 – Western Channel -Landings (t), discards (t) and relative discard rates by species and derogation, 2003-2008 – Note: Discard information for area 7e are sparse and not available for all countries.

ANNEX	REG_AREA	REG_GEAR	SPECIES	2003 L	2003 D	2003 R	2004 L	2004 D	2004 R	2005 L	2005 D	2005 R	2006 L	2006 D	2006 R	2007 L	2007 D	2007 R	2008 L	2008 D	2008 R
IIc	7e	3a	ANF	500			794			797			1014			1086	107	0.09	958	74	0.07
IIc	7e	3b	ANF	601			764			635			354			187			224		
IIc	7e	none	ANF	2442			2710			3058			2685			3006			2430		
IIc	7e	3a	COD	33			30			33			36			48	20	0.29	37		
IIc	7e	3b	COD	26			16			15			15			13			8		
IIc	7e	none	COD	669			231			303			415			511	31	0.06	451		
IIc	7e	3a	HAD	17			13			11			17			22	2	0.08	30		
IIc	7e	3b	HAD	5			4			8			3			2			1		
IIc	7e	none	HAD	708			384			363			492	19	0.04	703			1024		
IIc	7e	3a	HKE	5			6			6			6			4	1	0.2	10		
IIc	7e	3b	HKE	167			112			98			348			17			9		
IIc	7e	none	HKE	236			177			204			118			87			101		
IIc	7e	3a	NEP																		
IIc	7e	3b	NEP																		
IIc	7e	none	NEP	4			8			13			6			8			9		
IIc	7e	3a	PLE	820			801			769			743			571	2		543	6	0.01
IIc	7e	3b	PLE	11			18			27			13			8			4		
IIc	7e	none	PLE	265			243			275			323	10	0.03	257	28	0.1	260	13	0.05
IIc	7e	3a	POK				1														
IIc	7e	3b	POK	6			11			17			3			1			1		
IIc	7e	none	POK	7			6			3			3			1			1		
IIc	7e	3a	SOL	200			185			498			530			494	1		426	8	0.02
IIc	7e	3b	SOL	29			48			88			41			49			44		
IIc	7e	none	SOL	248			193			274			269			273			227		
IIc	7e	3a	WHG	72	3	0.04	60			53	22	0.29	45			45	5	0.1	48		
IIc	7e	3b	WHG	9			7			5			10			7			3		
IIc	7e	none	WHG	1894	61	0.03	1345	98	0.07	1450	44	0.03	1275	401	0.24	1387	35	0.02	1491		

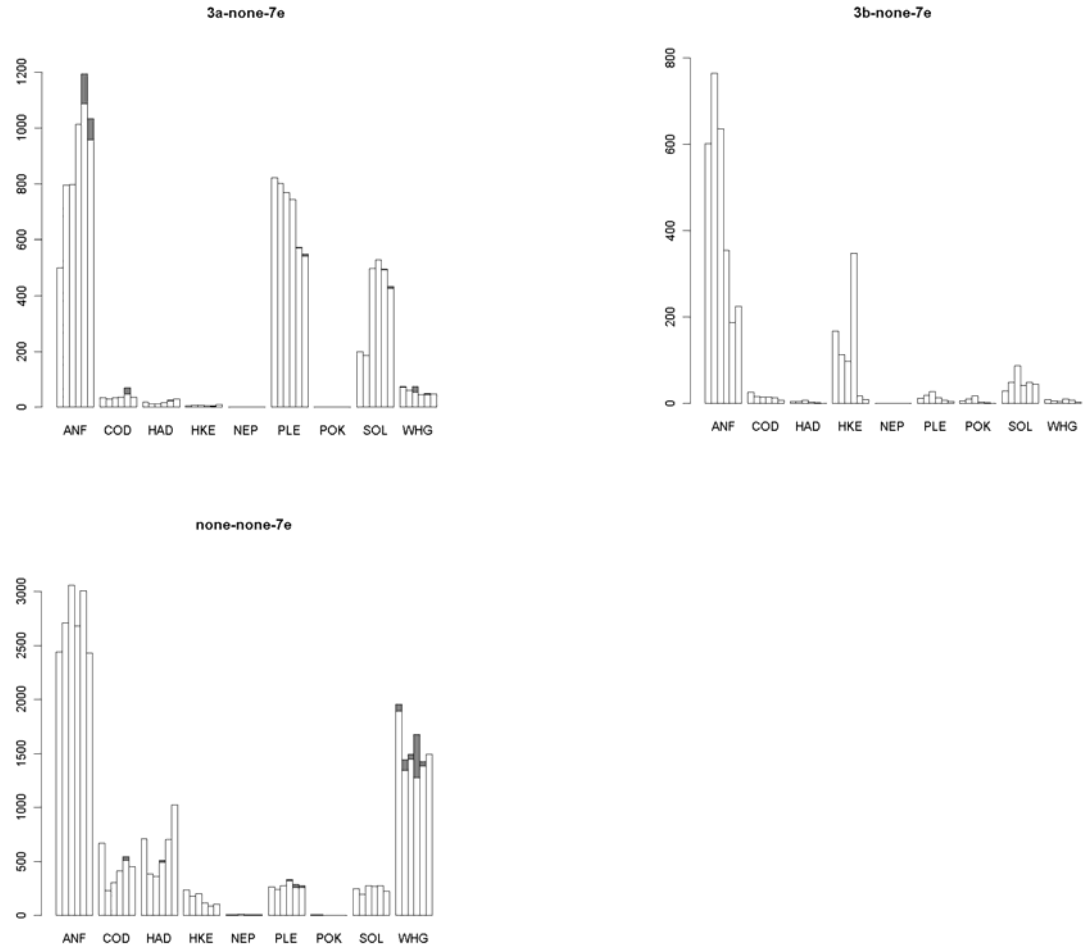


Fig. 8.3.1 – Western Channel - Landings (t) and discard (t) by derogation and species, 2003-2008 (from left to right). Note that information collected on discards is incomplete, so the apparent absence of discards in the figures for a given species/gear does not necessarily means zero discards.

8.4. Trend in CPUE of sole and plaice

Very limited discards are available for sole and plaice, therefore LPUE for sole and plaice are represented in Tables 8.4.1 and 8.4.2 and Figures 8.4.1 and 8.4.2 respectively. For both species the beam trawl fleet has the higher LPUE's. Sole LPUE's by beam trawlers have increased sharply from 2003 to 2005 and has stabilised around 125 g/(kW*days) since. Sole LPUE's for static nets have fluctuated with a gradual increase over the years from 39 g/kW*days in 2003 to 110 g/kW*days in 2008. The plaice LPUE's have been fluctuated around 200 g/kW*days for the beam trawl fleets until 2006 and dropped to around 150 g/kW*days in the last 2 years. The values for static nets varied between 15 and 37 g/kW*days.

Table 8.4.1 – Western Channel - Sole CPUE (g/(kW*days)) by derogation and year, 2003-2008. Note: Discard information for area 7e are sparse and therefore LPUE is provided in the table.

ANNEX	SPECIES	REG AREA COMB	REG GEAR	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
IIc	SOL	7e	3a	none	53	44	122	134	126	120
IIc	SOL	7e	3b	none	39	69	124	90	167	110
IIc	SOL	7e	none	none	12	9	11	13	14	13

Table 8.4.2 – Western Channel - Plaice CPUE (g/(kW*days)) by derogation and year, 2003-2008. Note: Discard information for area 7e are sparse and therefore LPUE is provided in the table.

ANNEX	SPECIES	REG AREA COMB	REG GEAR	SPECON	LPUE 2003	LPUE 2004	LPUE 2005	LPUE 2006	LPUE 2007	LPUE 2008
IIc	PLE	7e	3a	none	218	193	188	188	145	153
IIc	PLE	7e	3b	none	15	27	37	29	24	10
IIc	PLE	7e	none	none	13	11	11	16	13	15

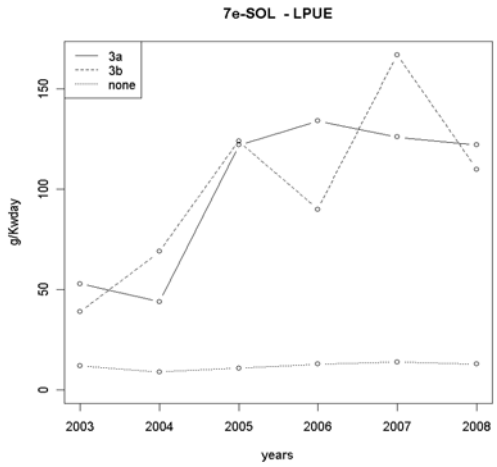


Figure 8.4.1- Western Chanel - Sole – LPUE (g/(KW*days)) by derogation and year, 2003-2008. Note: Discard information for area 7e are sparse and therefore the LPUE has been plotted.

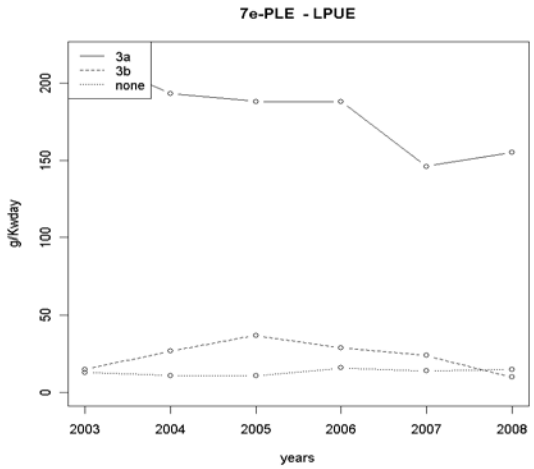


Figure 8.4.2- Western Chanel - Plaice – LPUE (g/(KW*days)) by derogation and year, 2003-2008. Note: Discard information for area 7e are sparse and therefore the LPUE has been plotted.

8.5. Ranked derogations according to relative contributions to sole catches

The relative contribution of sole weights in the catch (Table 8.5.1) shows an increase from 2003 to 2006 for the dominating beam trawls (3a), which coincides with a decrease of the category “none none”, mainly otter trawls which are not effort regulated in Annex IIc. STECF-SGMOS notes however that this otter trawl fleet is responsible for about 30% of the estimated sole and plaice catches in weight and about 90% of the cod catches in weight (see also section 8.6). The static nets with mesh size <220 mm (3b) are taking around 5-11% of sole catches in weight. There is no difference in ranking the derogations according to the year 2008 or the average of 2006-2008.

Table 8:5.1 - Western Channel - Ranked derogations according to relative sole catches in weight (t) 2003-2008. Ranking is according to the year 2008 and the average 2006-2008.

ANNEX	REG_AREA	SPECIES	REG_GEAR	2003 Rel	2004 Rel	2005 Rel	2006 Rel	2007 Rel	2008 Rel	Avg.2006-2008
IIc	7e	SOL	3a	0.42	0.44	0.58	0.63	0.61	0.61	0.62
IIc	7e	SOL	none	0.51	0.44	0.30	0.31	0.33	0.32	0.32
IIc	7e	SOL	3b	0.06	0.11	0.10	0.05	0.06	0.06	0.06

8.6. Unregulated gear in management area 7e

Category ‘none none’ represents unregulated gear types and mesh sizes in addition to unidentified mesh sizes. This section provides a break down of the main gears within this category in terms of effort (kW*Days at sea) and cod, sole and plaice catches.

The effort of the unregulated gear group ‘None none’ has been around 85% of the overall nominal effort for the whole time series.

Table 8.6.1 shows the disaggregation of the ‘none none’ category into the different gears categories. Effort by otter trawl is by far the dominant gear category with percentages in excess of 64% for all years. Dredge gears and pelagic trawl each contribute about 10% of the overall effort of the non regulated gear. Pots are responsible for about 5% and the rest of the gears account also for about 5%.

Table 8.6.2 provides the cod catches of the unregulated gear types. The cod catches of the unregulated gear are in excess of 84% of the overall cod catches in area 7e for each year of the data series (2003-2008). The otter trawl fleet is taking the bulk of these catches with percentages in excess of 81%. For 2008 the unregulated gears account for 91% of the overall cod catches where the otter trawl fleet is responsible for 88% of these catches.

Table 8.6.3 provides the sole catches of the unregulated gear types. The sole catches of the unregulated gear are in excess of 32% of the overall sole catches in area 7e for each year of the data series (2003-2008). The otter trawl fleet is the main fleet involved with percentages in excess of 27%. For 2008 the unregulated gears account for 33% of the overall sole catches where the otter trawl fleet is responsible for 27% of these catches.

Table 8.6.4 provides the plaice catches of the unregulated gear types. The plaice catches of the unregulated gear are in excess of 23% of the overall plaice catches in area 7e for each year of the data series (2003-2008). The otter trawl fleet is the main fleet involved with percentages in excess of 22%. For 2008 the unregulated gears account for 32% of the overall plaice catches where the otter trawl fleet is responsible for 31% of these catches.

Again STECF-SGMOS would like to mention that there is little information on discards for area 7e and therefore that the above percentages are more likely to be representative for landings than for total catches.

Table. 8.6.1. Western Channel Unregulated gear (category none-none) effort (kW*Days) by gear type, 2000-2008.

ANNEX	REG AREA	REG GEAR	Gear code	2000	2001	2002	2003	2004	2005	2006	2007	2008
IIc	7e	none	OTTER	12293678	13732095	18945698	15706460	16931842	20281561	15763770	14539591	12606524
IIc	7e	none	DREDGE	2423208	1783876	1762603	1619416	2042421	2444312	2035623	2208065	1741090
IIc	7e	none	PEL_TRAWL	3202009	2756225	1393278	1600836	1002384	731084	1213985	1163894	1436014
IIc	7e	none	POTS	955272	913714	812896	783418	856641	825454	762468	728246	746823
IIc	7e	none	TRAMMEL	52958	88850	37797	59740	133909	175182	219188	247857	370807
IIc	7e	none	GILL	151692	181003	216561	156266	321530	245239	246588	200375	280053
IIc	7e	none	LONGLINE	112032	106620	101459	150049	151144	240456	222570	223820	167550
IIc	7e	none	DEM_SEINE	1323	36507	32546	24093	52316	94168	202941	166784	129716
IIc	7e	none	none	2879	485	1964	6718	24203	38263	13606	2894	6448
IIc	7e	none	BEAM	70312	20286	8292	1252	8063	13177	9166	6031	
IIc	7e	none	PEL_SEINE				39	654			1444	
Sum				**19265363**	**19619661**	**23313094**	**20108287**	**21525107**	**25088896**	**20689905**	**19489001**	**17485025**

Table. 8.6.2. Western Channel. Unregulated gear (category none-none) cod (t) catch composition by gear type, 2003-2008. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG AREA	SPECIES	REG_GEAR	Gear code	2003	2004	2005	2006	2007	2008
IIc	7e	COD	none	OTTER	659.54	222.95	298.14	391.37	503.08	438.14
IIc	7e	COD	none	GILL	2.59	3.95	3.05	4.40	3.02	5.38
IIc	7e	COD	none	TRAMMEL	2.23	0.72	1.08	2.08	1.75	4.03
IIc	7e	COD	none	DREDGE	0.35	0.09	0.10	0.14	1.15	1.80
IIc	7e	COD	none	LONGLINE	3.20	3.44	0.43	16.62	0.66	1.27
IIc	7e	COD	none	POTS	0.29	0.02	0.01	0.08	0.09	0.17
IIc	7e	COD	none	PEL_TRAWL	0.94	0.02	0.10	0.02	0.07	0.01
IIc	7e	COD	none	BEAM	0.01	0.21	0.01	0.10		
IIc	7e	COD	none	DEM_SEINE				0.64	1.25	
IIc	7e	COD	none	none	0.01				0.01	
Sum					**669**	**231**	**303**	**415**	**511**	**451**

Table. 8.6.3. Western Chanel. Unregulated gear (category none-none) sole (t) catch composition by gear type, 2003-2008. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG AREA	SPECIES	REG_GEAR	Gear code	2003	2004	2005	2006	2007	2008
IIc	7e	SOL	none	OTTER	220.53	164.58	234.97	236.64	239.13	186.06
IIc	7e	SOL	none	DREDGE	18.96	17.08	29.09	26.21	31.03	37.87
IIc	7e	SOL	none	TRAMMEL	1.08	5.02	0.52	0.37	0.99	2.10
IIc	7e	SOL	none	PEL_TRAWL	0.12	0.38	0.25	0.03	0.05	0.21
IIc	7e	SOL	none	GILL	4.34	2.14	0.25	0.12	0.50	0.16
IIc	7e	SOL	none	POTS	0.26	0.45	2.70	0.24	1.23	0.09
IIc	7e	SOL	none	none	1.84	2.23	4.00	3.79	0.05	0.03
IIc	7e	SOL	none	LONGLINE	0.01	0.01	0.02	0.15	0.03	0.03
IIc	7e	SOL	none	BEAM	0.90	0.89	2.02	1.29	0.32	
IIc	7e	SOL	none	DEM_SEINE				0.00		
Sum					**248**	**193**	**274**	**269**	**273**	**227**

Table. 8.6.4. Western Chanel. Unregulated gear (category none-none) plaice (t) catch composition by gear type, 2003-2008. Note: Discard information for area 7e are sparse and therefore the table figures should rather be interpreted as landings then catches.

ANNEX	REG AREA	SPECIES	REG_GEAR	Gear code	2003	2004	2005	2006	2007	2008
IIc	7e	PLE	none	OTTER	255.40	231.52	257.39	311.22	246.57	251.60
IIc	7e	PLE	none	DREDGE	7.32	9.11	14.06	9.59	7.33	7.70
IIc	7e	PLE	none	TRAMMEL	1.19	0.03	1.14	0.25	0.47	0.80
IIc	7e	PLE	none	LONGLINE	0.08	0.04	0.02	0.07	0.07	0.09
IIc	7e	PLE	none	GILL	0.19	0.37	0.40	0.27	0.26	0.08
IIc	7e	PLE	none	POTS	0.03	0.00	0.01	0.08	0.15	0.05
IIc	7e	PLE	none	PEL_TRAWL	0.04	0.01	0.10	0.05	0.08	0.05
IIc	7e	PLE	none	DEM_SEINE			0.01	0.13	0.13	0.03
IIc	7e	PLE	none	BEAM	0.85	1.50	1.84	1.32	1.66	
IIc	7e	PLE	none	none	0.31	0.61	0.39		0.02	
IIc	7e	PLE	none	PEL_SEINE	0.01				0.02	
Sum					**265**	**243**	**275**	**323**	**257**	**260**

8.7. Fishing effort and catches (landings and discards) of sole and associated species of vessels <10m

8.7.1. General considerations regarding catches of vessels <10m

Table 8.7.1 shows a preliminary overview of the catches of some main species (cod, plaice, sole, hake and Nephrops in area 7e by the vessels <10m in 2008. It should be noted that not all countries have submitted information and that the total figures are therefore likely to give an underestimation of the catches of this vessel category. STECF-SGMOS would like to mention that although these figures are underestimates, they indicate that at least 7%, 9%, 7% and 2% of the total cod, plaice, sole and hake catches respectively are taken by vessels <10m.

Table 8.7.1 – Western Channel – Overview of cod, plaice, sole, hake and nephrops catches by vessels <10m in 2007.

	Sweden	Denmark	Germany	Belgium	France	Scotland	E&W	Ireland	Spain	Portugal	Netherlands	Total<10m	Total catch	%<10m
cod					1.4	0.0	33.0	0.0				34.4	495	7
plaice					3.2	0.0	70.2	0.0				73.4	808	9
sole					12.4	0.0	37.6	0.0				50	697	7
hake					0.08	0.0	2.8	0.0				2.88	120	2
nephrops					0.0	0.0	0.0	0.0				0	9	0

8.7.2. Country specific information of vessels <10m

More detailed information for vessels <10 meters were available only from France for the period 2003-2007. This information was presented in the 2008 report and is not repeated here. An update will be provided once new data become available.

8.8. Spatial distribution patterns of effective fishing effort of trawled gears 2003-2008

Figure 8.8.1 shows the spatial distribution of the effective fishing effort for beam trawl fleets with mesh size ≥80mm (3a) during the period 2003 to 2008. The pattern seems similar for the whole period with higher effort deployed along the English coast and somewhat higher values along the French coast around Guernsey and Jersey.

Figure 8.8.2 shows the spatial distribution of the effective fishing effort for static nets with mesh size <220mm (3b) during the period 2003 to 2008. The fishing effort is more

deployed along the French coasts with occasional higher densities of activities along the most southern point of the English coast. It seems that the latter activities have somewhat decreased over the period 2000-2008.

Figure 8.8.3 shows the spatial distribution of the effective fishing effort for the unregulated gears ("none-none") during the period 2003 to 2008. Apart from somewhat higher activities in central 7e in 2005 and 2007, the higher activity of the unallocated gears was most prevalent in the coastal areas in 7e.

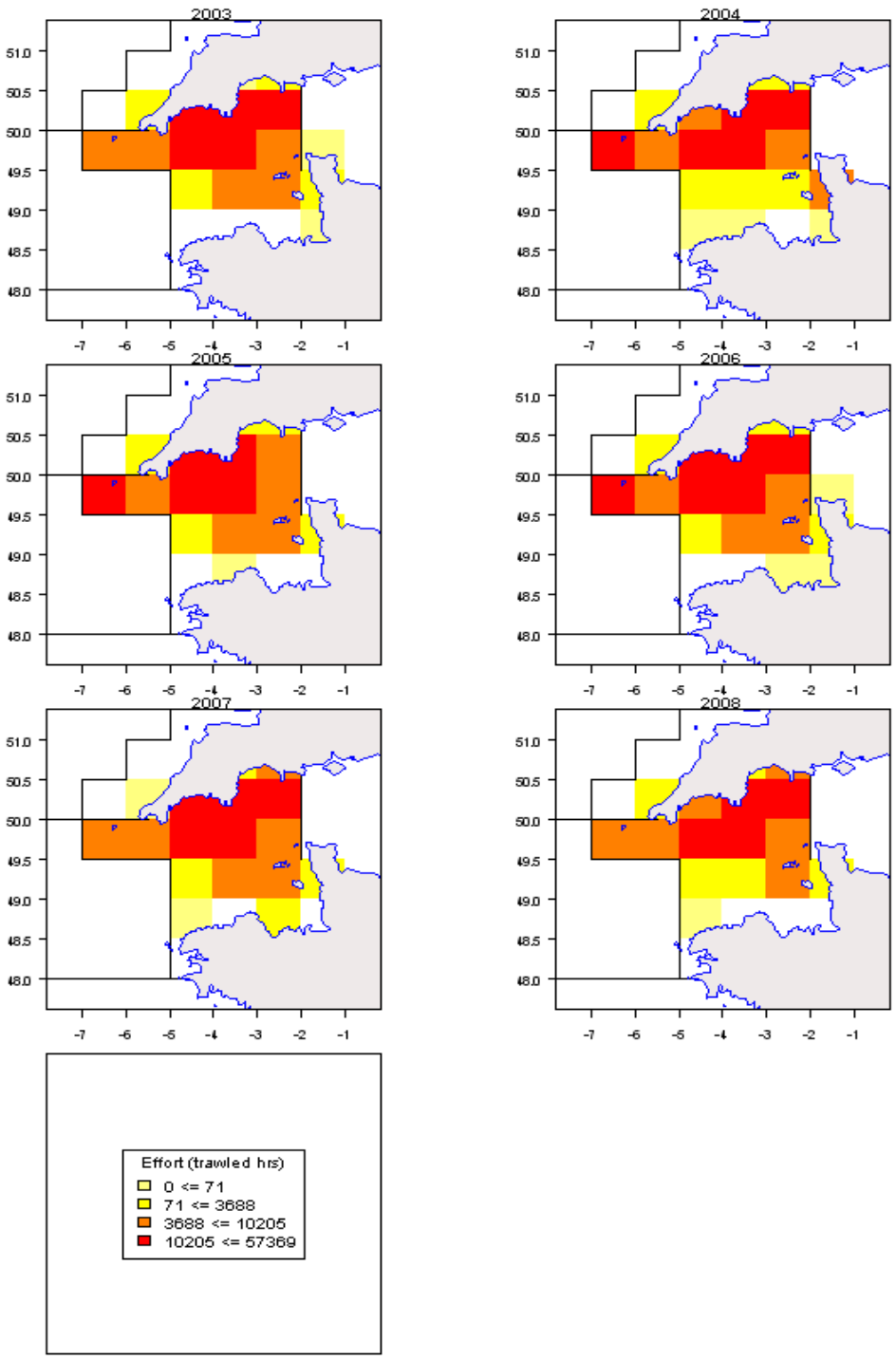


Figure 8.8.1. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for Beam trawl fleet with mesh size ≥80 mm(3a), 2003-2008.

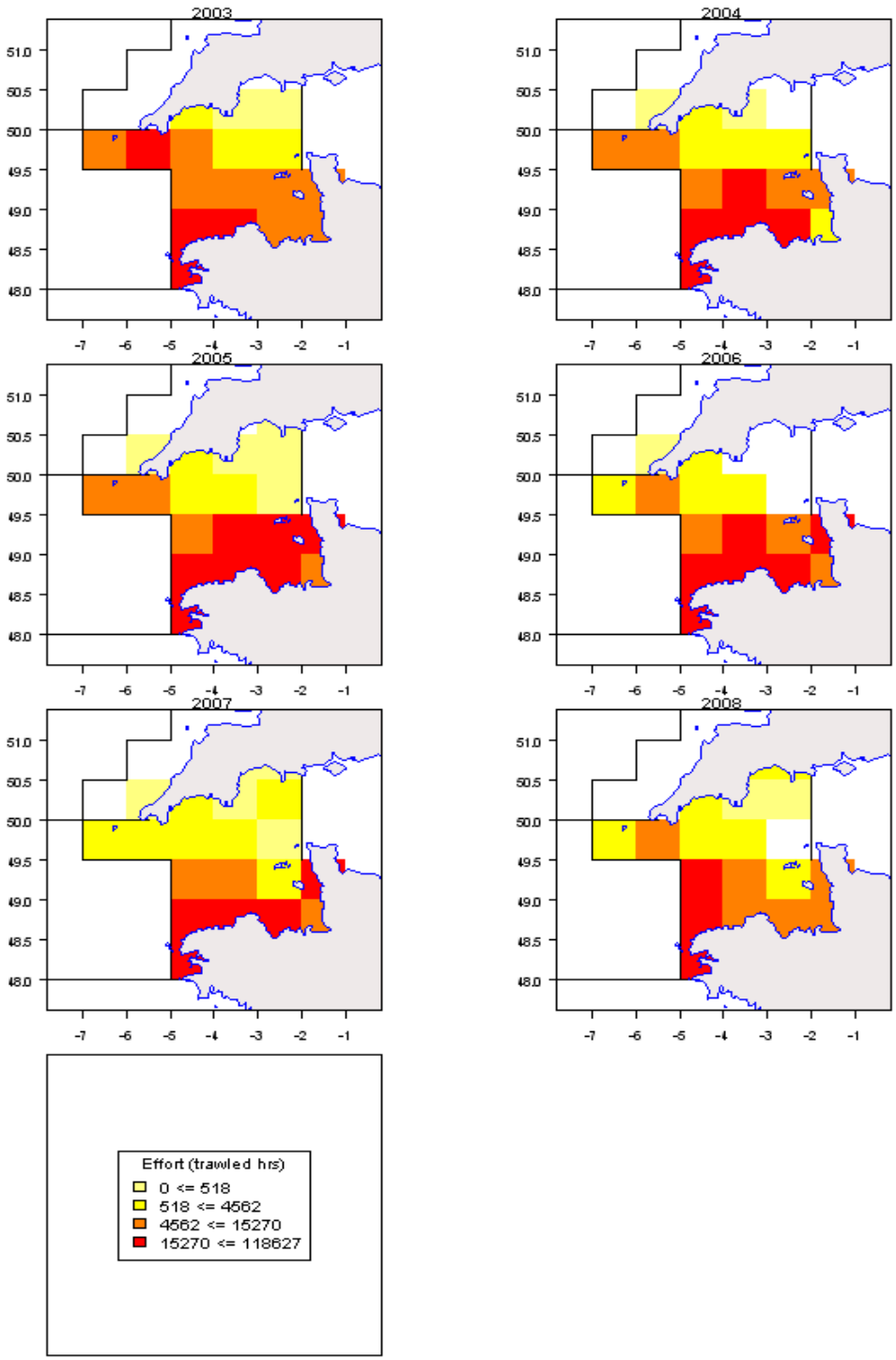


Figure 8.8.2. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for static nets with mesh size <220mm (3b), 2003-2008.

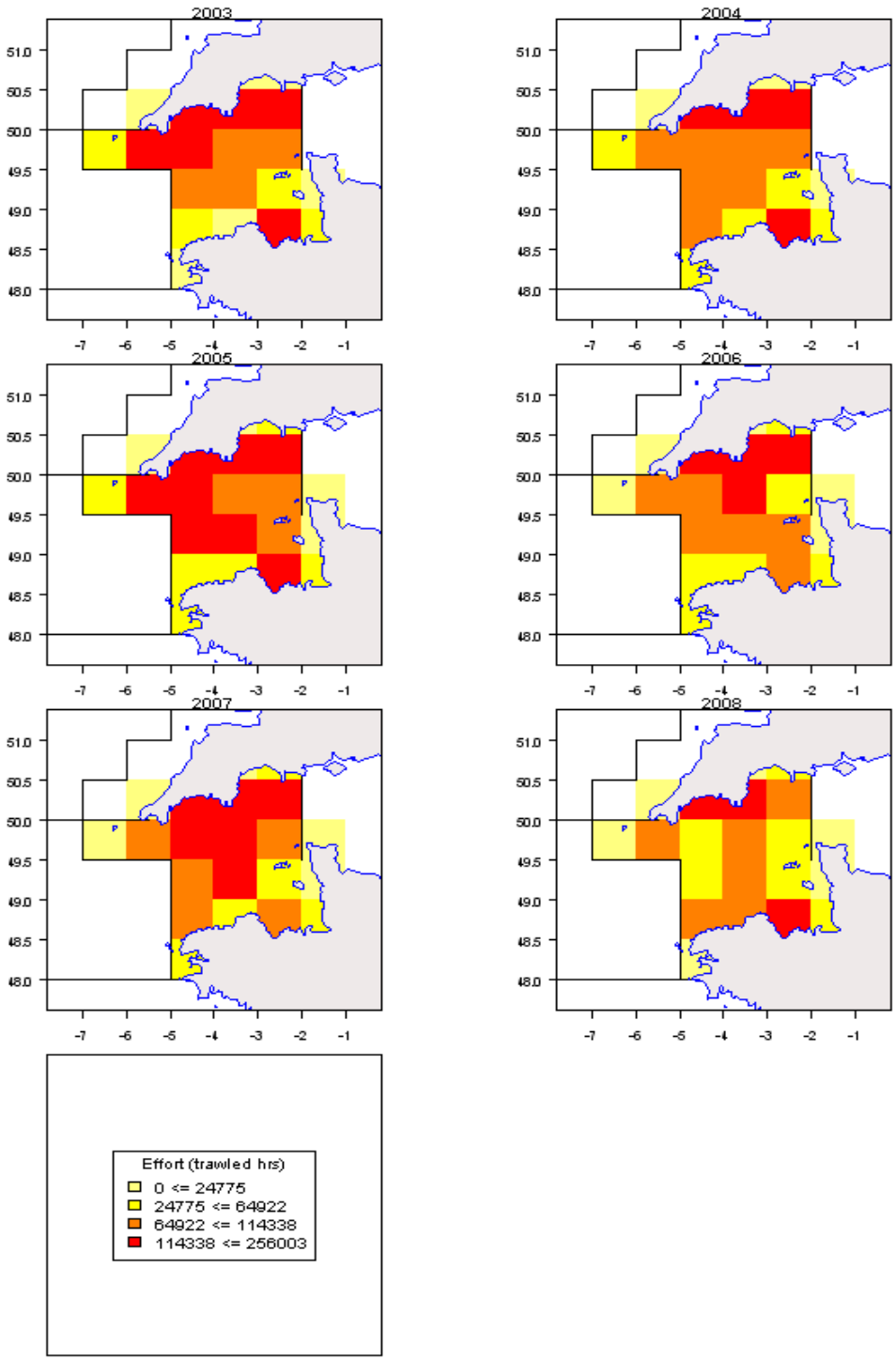


Figure 8.8.3. Western Channel. Spatial distribution of effective fishing effort (trawled hours) by ICES statistical rectangle for unregulated gears ("none-none"), 2003-2008.

9. CELTIC SEA

9.1. General

The Celtic Sea (ICES Divisions VIIbc,e-k) is not currently covered by the effort management scheme described under Annex II. However, the recent Commission proposals for the recovery of cod stocks within a revised recovery plan, also includes the Celtic Sea cod and puts forward ideas for an effort management regime to be applied in that area too.

It should be noted that the Celtic Sea cod stock definition covers ICES Divisions VIIe-k, while the cod in the ICES Divisions VIIb-c is considered to be the West Ireland stock. Landings of cod from the ICES Divisions VIIb-c are very low: 18 tonnes in 2008 are reported (ICES-WGSSDS-2008). However, the overall fishing effort in that area, not dedicated to cod, may be large. This has to be kept in mind while looking at the results for the whole area. Some relevant information on Division VIIe is presented in Section 8 of the report as part of the Annex IIc regulation covering sole. Since cod in Division VIIe is included in the Celtic Sea definition, fishing effort and catches for that area are also considered in this section.

Data available for the Celtic Sea

Catch and effort data have been provided by all Member States. Spanish effort data are only available since 2005. Irish data are not disaggregated by mesh size before 2003. For this reason, only the period 2003-2008 should be taken as a true representation of trends, not the whole period (2000-2008) shown in the graphs.

The information on discards available to the Group is very partial and with the exception of the Belgian beam-trawlers (for which reliable estimates of discards have been provided), there is only some country-gear categories available for some years. In view of the small numbers of samples, the Group decided to consider landings per unit of effort only. However it should be kept in mind that discards reported to ICES have been substantial for some species and efforts to incorporate discards should be made in future. In that respect, available discard data are shown in the section dealing with total landings and discard but it should be kept in mind that these data are not exhaustive.

Métiers in the Celtic Sea

It should be kept in mind that, as for the areas covered by Annex IIa, the correspondence between gear-mesh size category and métier in the Celtic Sea may be not straightforward. For instance, the *Nephrops* métier in the Celtic Sea may be part of mesh-size category TR2 for Irish vessels, while for France this métier is contributed to by mesh-size category TR1.

Furthermore, even within a same gear and mesh-size category, the impact of fishing on cod may be very different. The following shows a description of the French metiers in the Celtic Sea and the impact of each on cod. Further details of the methodology can be found in Appendixes 4 and 5.

Table 9.1.1 Percentage of cod by French metiers for the 2000-2008.

Métier COD	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average landings (t)
Bottom Trawls in the Celtic Sea to Benthic species	2.9%	4.6%	3.1%	2.1%	1.5%	1.1%	1.5%	1.7%	1.9%	354
Bottom Trawls in the Celtic Sea to Gadoids species	10.6%	15.2%	20.2%	14.8%	7.9%	5.4%	6.4%	10.3%	7.9%	2225
Bottom Trawls in the Celtic Sea to Nephrops	9.4%	11.6%	12.1%	11.2%	7.1%	5.5%	6.8%	9.9%	9.8%	757
Bottom Trawls in the Celtic Sea to Other species	1.9%	2.2%	1.9%	1.4%	0.7%	0.8%	1.1%	1.3%	1.4%	335
Nets in the Celtic Sea to Anglerfish	0.5%	0.4%	0.4%	0.4%	0.3%	0.2%	0.3%	0.2%	0.3%	9
Nets in the Celtic Sea to Hake	0.1%	0.8%	0.9%	0.4%	0.2%	0.5%	0.5%	1.1%	0.7%	23
Nets in the Celtic Sea to Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	1.1%	0
Nets in the Celtic Sea to Other species	0.5%	0.5%	0.5%	0.6%	0.2%	0.2%	0.3%	0.2%	1.1%	13

A detailed review and explanation of the French métiers practiced in the Celtic Sea was made in the previous report (STECF. 2008. Report of the SGMOS-08-03 Working Group. Fishing effort regime (Sept. 2008)). The exploitation patterns have not changed and were not described in this report. In the context of a Cod recovery plan, given that cod is not uniformly abundant all over the Celtic Sea, it could be envisaged that a future effort regime could limit the fishing effort in a zone where the impact on the cod stock will be maximum.

Within the Celtic Sea, the landings of cod predominantly come from Divisions VIIf and VIIg. These areas contribute more than 70% to the total landings of cod from the Celtic Sea (Figures 9.1.1 and 9.1.2). Unfortunately, information on discards is too sparse to be taken into consideration.

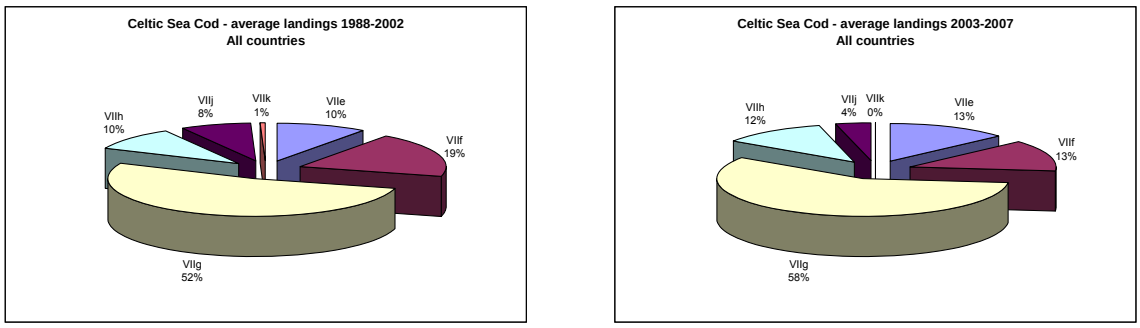


Figure 9.1.1. Contribution of each Division in the landings of cod (data from ICES-WGSSDS08)

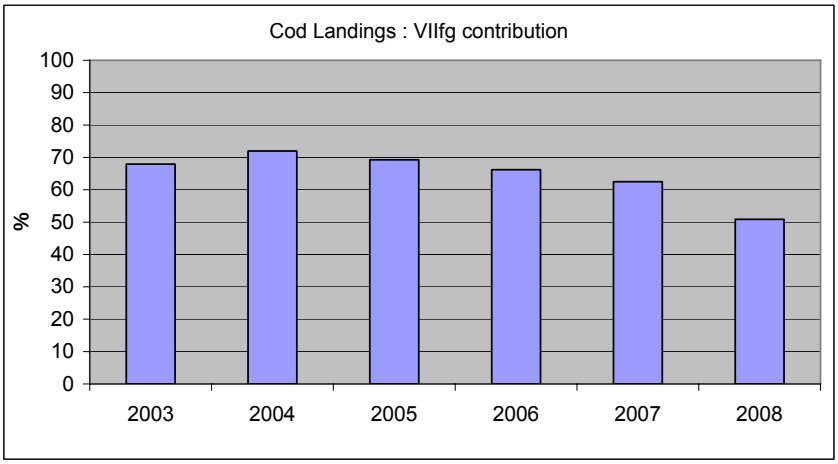


Figure 9.1.2.: Cod: Contribution of the landings from ICES Divisions VIIfg to the total landings from the Celtic Sea (ICES Divisions VIIbc,e-k) over 2003-2008

The average contribution of the Divisions VIIfg to the Celtic Sea landings of cod is about 65%. This contribution has been slightly decreasing in recent years (from 73% in 2004 to 51% in 2008); this decrease is probably due to the implementation of the closure of the Trevose box since 2005.

In view of the observation that VIIfg area could be considered as the target area for a cod recovery plan, the European Commission specifically requested that STECF-SGMOS provide information for this. In each section the VIIfg (also called Cel2 in the text and figures) area is considered in addition to the whole Celtic Sea (VIIbc,e-k also called Cel1) to highlight the contribution of this area to the total effort and to the cod landings, with a presentation of the gear categories and metiers.

9.2. Nominal effort

Relative change to data in 2008:

The effort calculated in last year's report as kw*fishing hours have been corrected to kw*days at sea according to the specifications in Council Regulation (EC) N° 43/2009. But it appears to be significant differences between the two data sets which could be explain as follow :
Between submissions, the French national data base was updated and some changes were made, as removals of duplicate records (mainly for gillnets and trammel nets), updates of referential (vessels, mesh size) . These corrections can explain the overestimation of catches and effort data computed in the first data set. Subsequent to the SGMOS meetings, French data were further revised and a redevelopment of databases is currently underway.

Table 9.2.1 Relative change to data in 2008.

ANNEX	REG AREA COMB	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
Cel1	7bcefghjk	4bi	none	BEL	0.185	0.197	0.316	0.299	0.347	0.367	0.336	0.438
Cel1	7bcefghjk	none	none	BEL	0.6	0.38	0.459	0.352				
Cel1	7bcefghjk	4ai	none	ENG	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4aii	none	ENG	0.004	0.003	0.003	0	0	-0.003	-0.002	-0.001
Cel1	7bcefghjk	4aiii	none	ENG	0.002	0	0	0	0	0	0	-0.077
Cel1	7bcefghjk	4aiv	none	ENG	-0.001	0	0	0	-0.002	-0.006	0	0
Cel1	7bcefghjk	4av	none	ENG	0	0.001	0	0	0.099	0	0	0
Cel1	7bcefghjk	4bi	none	ENG	0	0	0	0	0	0	0	-0.001
Cel1	7bcefghjk	4bii	none	ENG	0	0	0	0	-0.001	0	0	0
Cel1	7bcefghjk	4biii	none	ENG	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4biv	none	ENG	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4ci	none	ENG	0	0.037	0	0	0	0	0	0
Cel1	7bcefghjk	4cii	none	ENG	0.015	0.02	0.012	0.013	0.01	0.002	0.007	0.021
Cel1	7bcefghjk	4ciii	none	ENG	0.03	0.026	-0.011	0.012	0.004	0.009	0	0
Cel1	7bcefghjk	4civ	none	ENG	0.001	0.003	0	0	0.006	0.012	0.038	0
Cel1	7bcefghjk	4d	none	ENG	0.044	0.106	0	0	0	0	0	-0.006
Cel1	7bcefghjk	4e	none	ENG	0.013	0.004	0.021	0.039	0.025	0.002	0.006	0.002
Cel1	7bcefghjk	none	none	ENG	0.011	0.011	0.004	0.007	0.006	0.001	-0.001	0.001
Cel1	7bcefghjk	4ai	none	FRA	-0.433	-0.329	-0.804	-0.711	-0.855		-0.877	-0.961
Cel1	7bcefghjk	4aii	none	FRA	-0.111	-0.161	-0.109	-0.11	-0.109	-0.109	-0.127	-0.149
Cel1	7bcefghjk	4aiii	none	FRA	-0.125	-0.099	-0.159	-0.32	-0.177	-0.252	-0.428	-0.457
Cel1	7bcefghjk	4aiv	none	FRA	-0.215	-0.191	-0.186	-0.137	-0.147	-0.165	-0.144	-0.163
Cel1	7bcefghjk	4av	none	FRA	-0.393	-0.28	-0.205	-0.616	-0.73	-0.772	-0.727	-0.986
Cel1	7bcefghjk	4bi	none	FRA	0	0.484	0	0.716	0.222	0.069	-0.317	-0.274
Cel1	7bcefghjk	4bii	none	FRA	0	0	0	0	0	-0.042	0	
Cel1	7bcefghjk	4biii	none	FRA	0	0	0	0	0	0	-0.869	0
Cel1	7bcefghjk	4ci	none	FRA	-0.268	-0.436	-0.408	-0.387	0.694	-0.159	1.055	-0.232
Cel1	7bcefghjk	4cii	none	FRA	-0.64	-0.344	-0.345	-0.399	-0.446	-0.378	-0.242	-0.233
Cel1	7bcefghjk	4ciii	none	FRA	-0.437	-0.426	-0.274	-0.201	-0.247	-0.335	-0.647	-0.793
Cel1	7bcefghjk	4civ	none	FRA	-0.458	-0.621	-0.419	-0.518	-0.475	-0.577	-0.542	-0.746
Cel1	7bcefghjk	4d	none	FRA	-0.222	-0.192	-0.105	-0.138	-0.101	-0.236	-0.382	-0.44
Cel1	7bcefghjk	4e	none	FRA	-0.745	-0.401	-0.53	-0.622	-0.786	-0.824	-0.766	-0.573
Cel1	7bcefghjk	none	none	FRA	-0.908	-0.866	-0.905	-0.843	-0.839	-0.853	-0.947	-0.91
Cel1	7bcefghjk	4ai	none	GBG	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4aii	none	GBG	-0.001	0	0	0	0	0	0	0
Cel1	7bcefghjk	4aiii	none	GBG	0	0	0	0	0	0	0	0.001
Cel1	7bcefghjk	4aiv	none	GBG	0	0	-0.001	0	0	0	0	0
Cel1	7bcefghjk	none	none	GBG	-0.001	-0.001	0	0	-0.001	-0.001	-0.001	0
Cel1	7bcefghjk	4aii	none	GBJ	0	0	0	-0.001	0	-0.001	-0.001	-0.001
Cel1	7bcefghjk	4aiii	none	GBJ	0	0	-0.001	0	0	0	0	0
Cel1	7bcefghjk	4aiv	none	GBJ	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4bi	none	GBJ	0	0	0	0	0	-0.013	0	0
Cel1	7bcefghjk	4bii	none	GBJ	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	none	none	GBJ	0	0	0	0	0	0	0	0

Table 9.2.1 Continued.

ANNEX	REG AREA COMB	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007
Cel1	7bcefghjk	4ciii	none	GER	0	0	0	0	0	0.1	0	0
Cel1	7bcefghjk	4civ	none	GER	0.016	-0.012	0.005	0.017	-0.01	0.014	0.066	0.005
Cel1	7bcefghjk	none	none	GER	0.056	-0.012	0.003	-0.003	-0.011	-0.139	0.062	0.286
Cel1	7bcefghjk	4aiv	none	IOM	-0.001	0	0	0	0	0	0	0
Cel1	7bcefghjk	none	none	IOM	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4ai	none	IRL	0	0	0	-0.064	-0.097	-0.067	-0.004	0
Cel1	7bcefghjk	4aii	none	IRL	0	0	0	0.004	0.01	-0.016	-0.036	-0.024
Cel1	7bcefghjk	4aiii	none	IRL	0	0	0	0.055	-0.015	0.01	-0.049	-0.031
Cel1	7bcefghjk	4aiv	none	IRL	0	0	0	0.011	0.019	-0.042	-0.032	-0.005
Cel1	7bcefghjk	4av	none	IRL	0	0	0	-0.009	0.026	0	-0.019	-0.009
Cel1	7bcefghjk	4bi	none	IRL	0	0	0	-0.013	-0.015	-0.028	-0.034	-0.033
Cel1	7bcefghjk	4bii	none	IRL	0	0	0	-0.008	-0.056	-0.051	-0.027	-0.067
Cel1	7bcefghjk	4biii	none	IRL	0	0	0	-0.043	-0.027	-0.05	-0.013	-0.009
Cel1	7bcefghjk	4biv	none	IRL	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4ci	none	IRL	0	0	0	-0.022	-0.052	-0.108	-0.056	-0.041
Cel1	7bcefghjk	4cii	none	IRL	0	0	0	-0.026	-0.121	-0.002	-0.054	-0.066
Cel1	7bcefghjk	4ciii	none	IRL	0	0	0	0.001	0.124	-0.09	-0.388	-0.127
Cel1	7bcefghjk	4civ	none	IRL	0	0	0	0	0.005	-0.3	-0.273	0.028
Cel1	7bcefghjk	4e	none	IRL	0.03	0.031	0.048	0.039	-0.097	-0.002	0	0.858
Cel1	7bcefghjk	none	none	IRL	-0.001	-0.001	-0.006	0.056	0.061	-0.034	-0.086	-0.032
Cel1	7bcefghjk	4aii	none	NED	0	0	0.458	0.24	0.399	0.185	0.487	-0.487
Cel1	7bcefghjk	4bi	none	NED	0	0	0	13.956		0	0	0
Cel1	7bcefghjk	none	none	NED	0	0	-0.154	-0.246	-0.247	-0.345	-0.244	-0.184
Cel1	7bcefghjk	4aii	none	NIR	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4aiv	none	NIR	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	none	none	NIR	0	0	0	0	0	0	0	0.54
Cel1	7bcefghjk	4ai	none	SCO	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4aii	none	SCO	-0.008	0	0	0	0	0	0	0.013
Cel1	7bcefghjk	4aiii	none	SCO	-0.042	0	0	0	0	0	0	0
Cel1	7bcefghjk	4aiv	none	SCO	0	0	0	0	0.002	0	0	0.002
Cel1	7bcefghjk	4av	none	SCO	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4bi	none	SCO	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4ci	none	SCO	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4cii	none	SCO	-0.021	0	0	0	0	0	0	0
Cel1	7bcefghjk	4ciii	none	SCO	0	0	0.001	0	0	0	0	0
Cel1	7bcefghjk	4civ	none	SCO	0	0	0	0	-0.002	0	0	0
Cel1	7bcefghjk	4d	none	SCO	0	0	0	0	0	0	0	0
Cel1	7bcefghjk	4e	none	SCO	-0.075	0	0	-0.003	0	0	0	0
Cel1	7bcefghjk	none	none	SCO	-0.005	-0.012	0.026	-0.007	-0.008	0	0	0.001
Cel1	7bcefghjk	4aiv	none	SPN	0	0				11.323	11.75	1.506
Cel1	7bcefghjk	4cii	none	SPN	0	0				4.124	0.829	0.121
Cel1	7bcefghjk	4e	none	SPN	0	0				0.692	1.053	0.754
Cel1	7bcefghjk	none	none	SPN	0	0				-0.954	-0.969	-0.789

Gear category and Member State

Even though there is at present no effort regulation in the Celtic Sea, the analysis below considered the same gear and mesh categories as used in other areas, as set in the cod recovery plan proposal. Table 9.2.1. and table 9.2.2 list the trends in effort by gear and mesh categories by country in kW*days. Information on GT*days at sea and the number of vessels active in Celtic sea are not presented in this report but are available on the JRC website:

https://stecf.jrc.ec.europa.eu/meetings/2009?p_p_id=62_INSTANCE_ujGU&p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1&_62_INSTANCE_ujGU_struts_action=%2Fjournal_articles%2Fview&_62_INSTANCE_ujGU_groupId=1416&_62_INSTANCE_ujGU_articleId=132840&_62_INSTANCE_ujGU_version=1.0.

Table 9.2.2. Trend in effort (kW*days at sea), according to cod plan gear definition and Member State, 2000-2008. Note, data for Celtic Sea 7bcefghjk (Cel1) are shown first, followed by subset 7fg (Cel2).

Celtic Sea 7bcefghjk (Cel1)

REG GEAR COD	COUNTRY	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008
BT1	BEL	none									812
BT1	ENG	none					52079				
BT1	IRL	none				14428					
BT2	BEL	none	2033531	2038479	2286465	2914644	3918869	3394566	2823552	2932948	1986955
BT2	ENG	none	5464913	5740093	5392499	6040112	5696823	5684136	5278959	5012272	4317865
BT2	FRA	none	811	43530	17272	35547	151586	158274	98131	139344	159387
BT2	GBJ	none	173431	277324	278577	284450	365302	200063			
BT2	IRL	none				3628194	2280127	2942708	2073970	1765949	1009011
BT2	NED	none	26478			22000					
BT2	SCO	none								3666	
GN1	BEL	none									2129
GN1	ENG	none	1773876	1533105	1746998	2072275	2209784	1627608	968269	981458	724124
GN1	FRA	none	671143	1288135	1862045	1826665	1942388	2371830	2385810	2166501	1598838
GN1	GER	none	417051	391578	377303	371138	452381	396914	32794	171880	229650
GN1	IRL	none	1618063	1330427	777296	1004913	847269	664512	529614	550623	535030
GN1	SCO	none	450872	348860	250000	467260	643185	498868	192066	193116	355646
GN1	SPN	none						398875	302090	291021	159268
GT1	ENG	none	9010	4939	936	18276	40888	27240	71011	29897	37830
GT1	FRA	none	229628	477096	512516	445068	690132	809756	615893	599996	856495
GT1	IRL	none		3885		802	172	16260	18287	23975	44065
GT1	POR	none				231					
GT1	SCO	none	74562	102966	112004	50501	13362				
LL1	DEN	none			6993						
LL1	ENG	none	492692	435148	492186	400652	340754	323584	475144	656851	199533
LL1	FRA	none	69185	92583	59070	99019	74599	73764	167326	380987	259170
LL1	IRL	none	77156	133688	69300	83386	3600	72796	1265	26734	22747
LL1	POR	none								6531	
LL1	SCO	none	196263	298487	286098	136014	6160	51196	249936	257928	811319
LL1	SPN	none						7720473	6248056	7540918	7110487
none	BEL	none	39400	41286	36086	21681					17671
none	DEN	none	583191	513780	413879	291136	541776	587076	553811	967873	442695
none	ENG	none	3373661	3474036	3606424	3283920	3433892	3602055	3699853	3682812	3440388
none	FRA	none	296940	392980	327848	534918	692126	570599	238984	387744	370733
none	GBG	none	111632	135064	11332		75868	56398	39402	67026	39204
none	GBJ	none	127744	146052	86529	55311	5248		19963		32582
none	GER	none	1189505	1029246	1217137	1243212	1259778	1003897	894497	1012370	1225530
none	IOM	none	13000	21775	19240				23622	1488	1689
none	IRL	none	13086898	13675022	15325467	2724241	4969139	2442256	1597765	2378228	2197026
none	NED	none	7363782	6362540	5262640	5452874	5348836	4925416	4813371	4426746	6055935
none	NIR	none	113924	71714	146089	162183	169317	176240	25667	51430	14170
none	SCO	none	1440610	1793958	1569277	1146205	1804690	2268103	1052240	1439443	1641735
none	SPN	none						281744	174828	327803	353670
TR1	DEN	none	23786								
TR1	ENG	none	406816	1515538	3471650	2435870	2257279	1792679	2227366	2304849	1669349
TR1	FRA	none	15359836	20564152	26551236	27571642	23637467	22405446	23660794	21322138	16952329
TR1	GBG	none			5811					328	402
TR1	GBJ	none		6396	2296						
TR1	IOM	none	11967								
TR1	IRL	none				5678521	4826535	4623888	3823365	4092281	4056815
TR1	NED	none		735							
TR1	NIR	none	7897	20675	12016	7641		716	5176		1141
TR1	SCO	none	168932	349635	792686	802771	879428	1084677	779453	681392	835556
TR1	SPN	none						10092512	8339877	8252917	7654752
TR2	BEL	none					104732	162244	376554	411132	406547
TR2	ENG	none	7392001	5076205	2140672	2182673	2254783	2175963	2027660	2064707	1664222
TR2	FRA	none	17883502	18128937	20056530	17591915	18769544	22177578	16468145	14835509	12200867
TR2	GBG	none	15106	42207	27222			730	6378	11065	5203
TR2	GBJ	none	69291	32364	36663	3557		8657	28217	42005	34310
TR2	IRL	none				5100457	5077423	6487449	5680697	6043098	4631428
TR2	NED	none	2847	36507	36223	36589	64393	108566	162551	113851	90839
TR2	NIR	none	28717	2620	2184		53672	72432	42938	20658	131938
TR2	SCO	none	1410391	945649	422720	490834	445363	419919	388289	368052	508125
TR3	DEN	none	65779		36892	2504	21706	7260			
TR3	ENG	none	54880	45175	39505	47434	30179	41437	43073	82151	96374
TR3	FRA	none	58153	65482	2111	5957	1653		2712	1088	880
TR3	GBG	none								201	
TR3	IRL	none				10707	34072	51966	74168	125429	64905
TR3	NED	none	28392	5096							
TR3	SCO	none		1490		745	4917	5364	298	20047	8371

Table 9.2.2 continued *subset 7fg (Cel2)*

REG GEAR	COUNTRY	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008
BT1	ENG	none					8787				
BT1	IRL	none				10273					
BT2	BEL	none	2010209	1973485	2033727	2419519	3247914	2722470	2222737	2159833	1440963
BT2	ENG	none	1383609	1471343	927459	1050450	1012837	785332	645496	570358	411556
BT2	FRA	none						7883		150	
BT2	GBJ	none	73487	86592	97414	151639	145409	46378			
BT2	IRL	none				2757116	1743796	2371182	1774212	1543006	949761
GN1	BEL	none									1409
GN1	ENG	none	409776	313415	499933	427137	513629	435496	405494	377381	309350
GN1	FRA	none	40181	40462	2119	46763	47494	86449	28538	5586	55641
GN1	IRL	none	208098	251895	153694	310123	402995	309218	184702	230477	302007
GN1	SCO	none				689	721	1337			
GT1	ENG	none	55	2092	936	1570	23919	9277	26791	18299	16459
GT1	FRA	none				3292	771		47462	38766	49530
GT1	IRL	none				802				9643	12369
LL1	ENG	none	81128	81649	54879	28062	33074	44504	32769	14101	6377
LL1	FRA	none									1932
LL1	IRL	none		1432				2167		3583	4986
LL1	SCO	none		886				221			
LL1	SPN	none						50078	24432	23567	30793
none	BEL	none	39210	41286	35195	21681					7311
none	ENG	none	334649	408898	387035	470249	517039	613080	414793	538697	572301
none	FRA	none	2400	19162						554	
none	GBG	none	1846	26319						20910	16433
none	GBJ	none	9876	26568	19068	984	3772				32582
none	IOM	none		637	2262				3720	372	911
none	IRL	none	5373698	5676596	5693687	874382	1435447	301870	186093	266521	260983
none	NED	none	13194	7040	17237	173084	115456	7210	47870	50829	4725
none	SCO	none	18071	7748	3196		2000	16246	39971	13036	21843
TR1	ENG	none	24631	130163	164399	111759	122527	78032	86398	74498	101146
TR1	FRA	none	7672221	10281089	12801221	12968541	10327270	9071080	8867251	7156424	5520425
TR1	IOM	none	11967								
TR1	IRL	none				665576	684242	851183	1047987	1399839	1641076
TR1	NIR	none	7897	20675	12016	7641		716	5176		1141
TR1	SCO	none	979	11316	5266	9622	7701		9616	4479	12835
TR1	SPN	none						251637	80109	58870	109349
TR2	BEL	none					99896	152584	359224	396321	383484
TR2	ENG	none	399705	324233	244440	277253	234967	251717	308751	232452	259463
TR2	FRA	none	3160435	1413226	578226	522787	142282	284280	90827	83448	34006
TR2	GBG	none			421						
TR2	GBJ	none	742								
TR2	IRL	none				2205828	2217865	3306102	2785047	2840210	2259423
TR2	NIR	none	28717	2620	2184		52370	72432	42938	20658	127726
TR2	SCO	none	4865			4770	12285	4095	2828		2693
TR3	ENG	none	8206	358			373	1119			
TR3	FRA	none	21629	4492							
TR3	IRL	none					22164	3400	15903	11918	10104
TR3	NED	none	4368								

Table 9.2.3 Trend in effort (kW*days at sea), by derogation as given in Annex IIA gear definition. Data for Celtic Sea 7bcefghjk (Cel1) are shown first, followed by subset 7fg (Cel2).

ANNEX	REG AREA COMB	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cel1	7bcefghjk	4ai	none	DEN	65779		36892	2504	21706	7260			
Cel1	7bcefghjk	4ai	none	ENG	54880	45175	39505	47434	30179	41437	43073	82151	96374
Cel1	7bcefghjk	4ai	none	FRA	58153	65482	2111	5957	1653		2712	1088	880
Cel1	7bcefghjk	4ai	none	GBG								201	
Cel1	7bcefghjk	4ai	none	IRL				10707	34072	51966	74168	125429	64905
Cel1	7bcefghjk	4ai	none	NED	28392	5096							
Cel1	7bcefghjk	4ai	none	SCO		1490		745	4917	5364	298	20047	8371
Cel1	7bcefghjk	4aii	none	BEL					104732	162244	376554	411132	406547
Cel1	7bcefghjk	4aii	none	ENG	6982716	4730511	1794721	1771414	1816938	1761709	1612927	1673879	1332369
Cel1	7bcefghjk	4aii	none	FRA	16552681	16695214	18985168	17057438	18114927	21556982	16291138	14661398	12051603
Cel1	7bcefghjk	4aii	none	GBG	15106	42207	27222			730	6378	10244	985
Cel1	7bcefghjk	4aii	none	GBJ	69291	27444	34739	3557		8657	28217	42005	34310
Cel1	7bcefghjk	4aii	none	IRL				4590581	4482190	5695878	4906022	5337796	4253903
Cel1	7bcefghjk	4aii	none	NED	2847	36507	36223	36589	64393	108566	162551	113851	90839
Cel1	7bcefghjk	4aii	none	NIR	28717	2620	2184		53672	72432	42938	20658	131938
Cel1	7bcefghjk	4aii	none	SCO	1226586	837297	396878	451909	332167	352869	383223	350470	455422
Cel1	7bcefghjk	4aiii	none	ENG	409285	345694	345951	411259	437845	414254	414733	390828	331853
Cel1	7bcefghjk	4aiii	none	FRA	1330821	1433723	1071362	534477	654617	620596	177007	174111	149264
Cel1	7bcefghjk	4aiii	none	GBG								821	4218
Cel1	7bcefghjk	4aiii	none	GBJ		4920	1924						
Cel1	7bcefghjk	4aiii	none	IRL				509876	595233	791571	774675	705302	377525
Cel1	7bcefghjk	4aiii	none	SCO	183805	108352	25842	38925	113196	67050	5066	17582	52703
Cel1	7bcefghjk	4aiv	none	ENG	406816	1514418	3471650	2435870	2253593	1786186	2227366	2304849	1669174
Cel1	7bcefghjk	4aiv	none	FRA	15324600	20414634	26514814	27528250	23620562	22388819	23656262	21321114	16950552
Cel1	7bcefghjk	4aiv	none	GBG			5811					328	402
Cel1	7bcefghjk	4aiv	none	GBJ		6396	2296						
Cel1	7bcefghjk	4aiv	none	IOM	11967								
Cel1	7bcefghjk	4aiv	none	IRL				5309845	4526119	4607905	3681838	3795071	3793804
Cel1	7bcefghjk	4aiv	none	NED		735							
Cel1	7bcefghjk	4aiv	none	NIR	7897	20675	12016	7641		716	5176		1141
Cel1	7bcefghjk	4aiv	none	SCO	168932	349635	790985	791374	876915	1084677	779453	681392	835556
Cel1	7bcefghjk	4aiv	none	SPN						10092512	8339877	8252917	7654752
Cel1	7bcefghjk	4av	none	DEN	23786								
Cel1	7bcefghjk	4av	none	ENG		1120			3686	6493			175
Cel1	7bcefghjk	4av	none	FRA	35236	149518	36422	43392	16905	16627	4532	1024	1777
Cel1	7bcefghjk	4av	none	IRL				368676	300416	15983	141527	297210	263011
Cel1	7bcefghjk	4av	none	SCO			1701	11397	2513				
Cel1	7bcefghjk	4bi	none	BEL	2033531	2038479	2286465	2914644	3918869	3394566	2823552	2932948	1986955
Cel1	7bcefghjk	4bi	none	ENG	5320000	5717051	5346213	6030365	5693711	5656632	5218577	4944021	4304067
Cel1	7bcefghjk	4bi	none	FRA	811	43530	17272	35547	151586	156400	93088	139344	159387
Cel1	7bcefghjk	4bi	none	GBJ	168391	276794	275553	284450	365302	200063			
Cel1	7bcefghjk	4bi	none	IRL				1804307	1451908	1867943	1731498	1641715	956820
Cel1	7bcefghjk	4bi	none	NED	26478			22000					
Cel1	7bcefghjk	4bi	none	SCO								3666	
Cel1	7bcefghjk	4bii	none	ENG	138457	1920	33929	7302	2030		60382	68251	13798
Cel1	7bcefghjk	4bii	none	FRA						1874			
Cel1	7bcefghjk	4bii	none	GBJ	5040	530	3024						
Cel1	7bcefghjk	4bii	none	IRL				1492047	488460	889156	276773	85980	12155
Cel1	7bcefghjk	4biii	none	ENG	6456	21122	12357	2445	1082	27504			
Cel1	7bcefghjk	4biii	none	FRA							5043		
Cel1	7bcefghjk	4biii	none	IRL				331840	339759	185609	65699	38254	40036
Cel1	7bcefghjk	4biv	none	BEL									812
Cel1	7bcefghjk	4biv	none	ENG					52079				
Cel1	7bcefghjk	4biv	none	IRL				14428					
Cel1	7bcefghjk	4ci	none	ENG	20443	21468	68375	23765	92929	35304	50880	46741	36290
Cel1	7bcefghjk	4ci	none	FRA	41209	53836	36720	82101	79670	133377	150149	34127	155555
Cel1	7bcefghjk	4ci	none	IRL				27859	28574	435952	15385	14665	29565
Cel1	7bcefghjk	4ci	none	SCO	25313			34086	10592		1215		
Cel1	7bcefghjk	4cii	none	ENG	1047351	716073	805601	1077570	703706	571843	528818	377024	329576
Cel1	7bcefghjk	4cii	none	FRA	297432	828979	1402786	1419553	1450106	1917055	2026788	1885092	971801
Cel1	7bcefghjk	4cii	none	IRL				481207	369895	190860	430590	396615	387558
Cel1	7bcefghjk	4cii	none	SCO	340625	192554	42971	201380	172866	60423		3240	9315
Cel1	7bcefghjk	4cii	none	SPN						398875	302090	291021	159268
Cel1	7bcefghjk	4ciii	none	ENG	212200	282045	430380	163683	224242	269588	112286	118353	111653
Cel1	7bcefghjk	4ciii	none	FRA	32967	149817	174158	111152	127541	45804	18508	509	3755
Cel1	7bcefghjk	4ciii	none	GER	26520	104312	115362	99008		14586			3636
Cel1	7bcefghjk	4ciii	none	IRL				130168	105537	22827	41850	85355	76612
Cel1	7bcefghjk	4ciii	none	SCO			6006		31863	43106			
Cel1	7bcefghjk	4civ	none	ENG	493525	509630	442642	805837	1188907	750873	276138	439340	246605
Cel1	7bcefghjk	4civ	none	FRA	299535	255503	248381	213859	285071	275594	190365	246773	467727
Cel1	7bcefghjk	4civ	none	GER	390531	287266	261941	272130	452381	382328	32794	171880	226014
Cel1	7bcefghjk	4civ	none	IRL				8645	39450	2104	41789	53988	41295
Cel1	7bcefghjk	4civ	none	SCO	78214	156306	201023	231794	427864	395339	189636	189876	346331

Table 9.2.3 (continued)

ANNEX	REG AREA COMB	REG GEAR	SPECON	COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cel1	7bcefghjk	4d	none	ENG	9010	4939	936	18276	40888	27240	70852	29897	37830
Cel1	7bcefghjk	4d	none	FRA	229628	477096	512516	445068	690132	809756	615893	599996	856495
Cel1	7bcefghjk	4d	none	IRL				802	172	16260	18287	23975	44065
Cel1	7bcefghjk	4d	none	SCO	74562	102966	112004	50501	13362				
Cel1	7bcefghjk	4e	none	DEN			6993						
Cel1	7bcefghjk	4e	none	ENG	492692	435148	492186	400652	340754	323584	475144	656851	199533
Cel1	7bcefghjk	4e	none	FRA	69185	92583	59070	99019	74599	73764	167326	380987	259170
Cel1	7bcefghjk	4e	none	IRL	77156	133688	69300	83386	3600	72796	1265	26734	22747
Cel1	7bcefghjk	4e	none	POR								6531	
Cel1	7bcefghjk	4e	none	SCO	196263	298487	286098	136014	6160	51196	249936	257928	811319
Cel1	7bcefghjk	4e	none	SPN						7720473	6248056	7540918	7110487
Cel1	7bcefghjk	none	none	BEL	39400	41286	36086	21681					19800
Cel1	7bcefghjk	none	none	DEN	583191	513780	413879	291136	541776	587076	553811	967873	442695
Cel1	7bcefghjk	none	none	ENG	3374018	3477925	3606424	3285340	3433892	3602055	3700159	3682812	3440388
Cel1	7bcefghjk	none	none	FRA	296940	392980	327848	534918	692126	570599	238984	387744	370733
Cel1	7bcefghjk	none	none	GBG	111632	135064	11332		75868	56398	39402	67026	39204
Cel1	7bcefghjk	none	none	GBJ	127744	146052	86529	55311	5248		19963		32582
Cel1	7bcefghjk	none	none	GER	1189505	1029246	1217137	1243212	1259778	1003897	894497	1012370	1225530
Cel1	7bcefghjk	none	none	IOM	13000	21775	19240				23622	1488	1689
Cel1	7bcefghjk	none	none	IRL	14704961	15009334	16102763	3081275	5272952	2455025	1597765	2378228	2197026
Cel1	7bcefghjk	none	none	NED	7363782	6362540	5262640	5452874	5348836	4925416	4813371	4426746	6055935
Cel1	7bcefghjk	none	none	NIR	113924	71714	146089	162183	169317	176240	25667	51430	14170
Cel1	7bcefghjk	none	none	POR				231					
Cel1	7bcefghjk	none	none	SCO	1447330	1793958	1569277	1146205	1804690	2268103	1053455	1439443	1641735
Cel1	7bcefghjk	none	none	SPN						281744	174828	327803	353670
Cel2	7fg	4ai	none	ENG	8206	358			373	1119			
Cel2	7fg	4ai	none	FRA	21629	4492							
Cel2	7fg	4ai	none	IRL					22164	3400	15903	11918	10104
Cel2	7fg	4ai	none	NED	4368								
Cel2	7fg	4aii	none	BEL					99896	152584	359224	396321	383484
Cel2	7fg	4aii	none	ENG	390442	312939	229201	258658	234967	251530	304635	232452	256084
Cel2	7fg	4aii	none	FRA	3042259	1326226	576016	522457	142282	284280	90827	83448	34006
Cel2	7fg	4aii	none	GBG			421						
Cel2	7fg	4aii	none	GBJ	742								
Cel2	7fg	4aii	none	IRL				1992648	1920595	3054960	2613408	2631444	2024900
Cel2	7fg	4aii	none	NIR	28717	2620	2184		52370	72432	42938	20658	127726
Cel2	7fg	4aii	none	SCO	2869			4770	12285	4095	2828		2693
Cel2	7fg	4aiii	none	ENG	9263	11294	15239	18595		187	4116		3379
Cel2	7fg	4aiii	none	FRA	118176	87000	2210	330					
Cel2	7fg	4aiii	none	IRL				213180	297270	251142	171639	208766	234523
Cel2	7fg	4aiii	none	SCO	1996								
Cel2	7fg	4aiv	none	ENG	24631	129231	164399	111759	119657	78032	86398	74498	101146
Cel2	7fg	4aiv	none	FRA	7672221	10272269	12779097	12968541	10327270	9071080	8867251	7156424	5520425
Cel2	7fg	4aiv	none	IOM	11967								
Cel2	7fg	4aiv	none	IRL				630839	679822	851183	1047316	1391653	1628667
Cel2	7fg	4aiv	none	NIR	7897	20675	12016	7641		716	5176		1141
Cel2	7fg	4aiv	none	SCO	979	11316	5266	9622	7701		9616	4479	12835
Cel2	7fg	4aiv	none	SPN						251637	80109	58870	109349
Cel2	7fg	4av	none	ENG		932			2870				
Cel2	7fg	4av	none	FRA		8820	22124						
Cel2	7fg	4av	none	IRL				34737	4420		671	8186	12409
Cel2	7fg	4bi	none	BEL	2010209	1973485	2033727	2419519	3247914	2722470	2222737	2159833	1440963
Cel2	7fg	4bi	none	ENG	1370168	1470341	915350	1049703	1012837	785332	630910	567850	411556
Cel2	7fg	4bi	none	FRA						7883		150	
Cel2	7fg	4bi	none	GBJ	69119	86592	94390	151639	145409	46378			
Cel2	7fg	4bi	none	IRL				1438580	1041346	1414500	1470597	1444686	909755
Cel2	7fg	4bii	none	ENG	13441	534	6805	747			14586	2508	
Cel2	7fg	4bii	none	GBJ	4368		3024						
Cel2	7fg	4bii	none	IRL				1086604	434892	774940	237916	71706	12155
Cel2	7fg	4biii	none	ENG		468	5304						
Cel2	7fg	4biii	none	IRL				231932	267558	181742	65699	26614	27851
Cel2	7fg	4biv	none	ENG					8787				
Cel2	7fg	4biv	none	IRL				10273					
Cel2	7fg	4ci	none	ENG	11909	7980	28373	10611	70441	30872	45292	39725	33094
Cel2	7fg	4ci	none	FRA		13272		3348		9396	14858		47811
Cel2	7fg	4ci	none	IRL				27519	20837	200122	6329	4069	6547
Cel2	7fg	4cii	none	ENG	328762	221274	392628	378058	296329	294895	261026	249061	214333
Cel2	7fg	4cii	none	FRA	6187	3019	2119	13219	21157	48629	4636	5586	7830
Cel2	7fg	4cii	none	IRL				113862	161112	83537	110737	121401	210934
Cel2	7fg	4cii	none	SCO				689	721	1337			
Cel2	7fg	4ciii	none	ENG	53970	39133	31461	15186	21140	10575	6616	6997	2757
Cel2	7fg	4ciii	none	FRA	6860			13240	17967	19703			
Cel2	7fg	4ciii	none	IRL				61384	76541	22827	41540	79136	68730
Cel2	7fg	4civ	none	ENG	14778	41877	47471	21862	125719	99154	92413	81598	59166
Cel2	7fg	4civ	none	FRA	27134	24171		16956	8370	8721	9044		
Cel2	7fg	4civ	none	IRL					2700		26096	25871	15796
Cel2	7fg	4d	none	ENG	55	2092	936	1570	23919	9277	26697	18299	16459
Cel2	7fg	4d	none	FRA				3292	771		47462	38766	49530
Cel2	7fg	4d	none	IRL				802				9643	12369
Cel2	7fg	4e	none	ENG	81128	81649	54879	28062	33074	44504	32769	14101	6377
Cel2	7fg	4e	none	FRA									1932
Cel2	7fg	4e	none	IRL		1432				2167		3583	4986
Cel2	7fg	4e	none	SCO		886				221			
Cel2	7fg	4e	none	SPN						50078	24432	23567	30793
Cel2	7fg	none	none	BEL	39210	41286	35195	21681					8720
Cel2	7fg	none	none	ENG	335006	412049	387035	471669	517039	613080	415034	538697	572301
Cel2	7fg	none	none	FRA	2400	19162						554	
Cel2	7fg	none	none	GBG	1846	26319						20910	16433
Cel2	7fg	none	none	GBJ	9876	26568	19068	984	3772				32582
Cel2	7fg	none	none	IOM		637	2262				3720	372	911
Cel2	7fg	none	none	IRL	5581796	5928491	5847381	981740	1577252	304602	186093	266521	260983
Cel2	7fg	none	none	NED	13194	7040	17237	173084	115456	7210	47870	50829	4725
Cel2	7fg	none	none	SCO	18071	7748	3196		2000	16246	39971	13036	21843

Celtic Sea all

Effort contributions by vessels from different nations are shown in (Figure 9.2.1). In terms of kW*days, France contributes 43%, UK 16% Ireland 17%, Spain 10%, the Netherlands 6%, Scotland 4% and Belgium 3% (average 2002-2008).

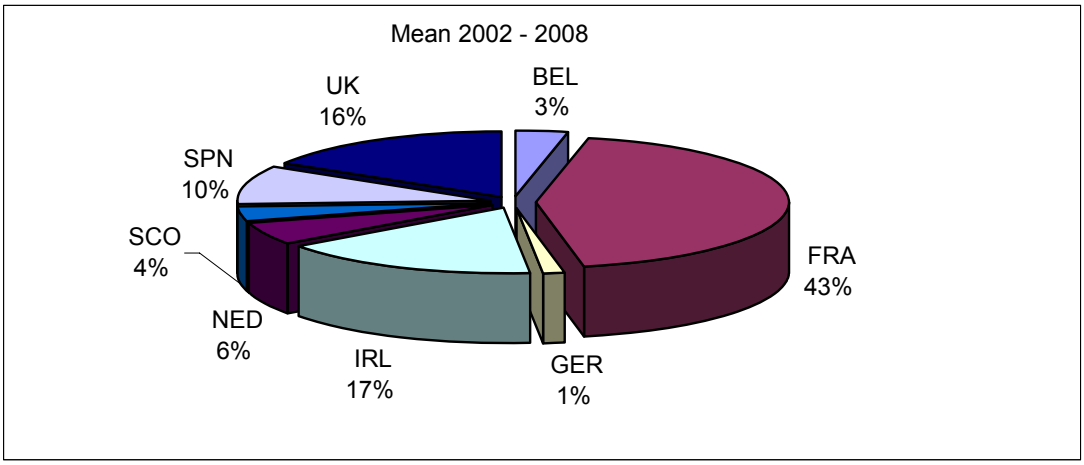


Figure 9.2.1. Contribution of each country to the total effort in the Celtic Sea (mean 2002-2008).

Effort in the overall Celtic Sea, combined across countries and summarized by regulated gears (as designated in those areas covered by the existing Annex IIa4 is shown in Table 9.2.4 and Table 9.2.5.

Table 9.2.4 Trend in effort (kW*days at sea), according to cod plan gear definition in the Celtic Sea (Cel 1 7bcefghjk), 2000-2008.

REG GEAR COD	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008
BT1	none				14428	52079				812
BT2	none	7699164	8099426	7974813	12924947	12412707	12379747	10274612	9854179	7473218
GN1	none	4931005	4892105	5013642	5742251	6095007	5958607	4410643	4354599	3604685
GT1	none	313200	588886	625456	514878	744554	853256	705191	653868	938390
LL1	none	835296	959906	913647	719071	425113	8241813	7141727	8869949	8403256
none	none	27740287	27657453	28021948	14915681	18300670	15913784	13134003	14742963	15833028
TR1	none	15979234	22457131	30835695	36496445	31600709	39999918	38836031	36653905	31170344
TR2	none	26801855	24264489	22722214	25406025	26769910	31613538	25181429	23910077	19673479
TR3	none	207204	117243	78508	67347	92527	106027	120251	228916	170530

Table 9.2.5 Trend in effort (kW*days at sea) by derogation as given in Annex IIA gear definition.

ANNEX	REG AREA C	REG GEAF	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cel1	7bcefghjk	4ai	none	207204	117243	78508	67347	92527	106027	120251	228916	170530
Cel1	7bcefghjk	4aii	none	24877944	22371800	21277135	23911488	24969019	29720067	23809948	22621433	18757916
Cel1	7bcefghjk	4aiii	none	1923911	1892689	1445079	1494537	1800891	1893471	1371481	1288644	915563
Cel1	7bcefghjk	4aiv	none	15920212	22306493	30797572	36072980	31277189	39960815	38689972	36355671	30905381
Cel1	7bcefghjk	4av	none	59022	150638	38123	423465	323520	39103	146059	298234	264963
Cel1	7bcefghjk	4bi	none	7549211	8075854	7925503	11091313	11581376	11275604	9866715	9661694	7407229
Cel1	7bcefghjk	4bii	none	143497	2450	36953	1499349	490490	891030	337155	154231	25953
Cel1	7bcefghjk	4biii	none	6456	21122	12357	334285	340841	213113	70742	38254	40036
Cel1	7bcefghjk	4biv	none				14428	52079				812
Cel1	7bcefghjk	4ci	none	86965	75304	105095	167811	211765	604633	217629	95533	221410
Cel1	7bcefghjk	4cii	none	1685408	1737606	2251358	3179710	2696573	3139056	3288286	2952992	1857518
Cel1	7bcefghjk	4ciii	none	271687	536174	725906	504011	489183	395911	172644	204217	195656
Cel1	7bcefghjk	4civ	none	1261805	1208705	1153987	1532265	2393673	1806238	730722	1101857	1327972
Cel1	7bcefghjk	4d	none	313200	585001	625456	514647	744554	853256	705032	653868	938390
Cel1	7bcefghjk	4e	none	835296	959906	913647	719071	425113	8241813	7141727	8869949	8403256
Cel1	7bcefghjk	none	none	29365427	28995654	28799244	15274366	18604483	15926553	13135524	14742963	15835157

The mean proportion of total effort over the years 2003-2008 (in order to exclude years with no Irish disaggregated data) of each gear category (Figure 9.2.2) shows that bottom trawls (and Danish seine) are dominant. Two major mesh-size categories of these gears: 4aiv (100-119mm) and 4aii (70-89mm) contribute 32 and 25% respectively. Beam trawlers with 80-89mm mesh size (4bi) contribute to 10% on average to the reported fishing effort in 2003-2008.

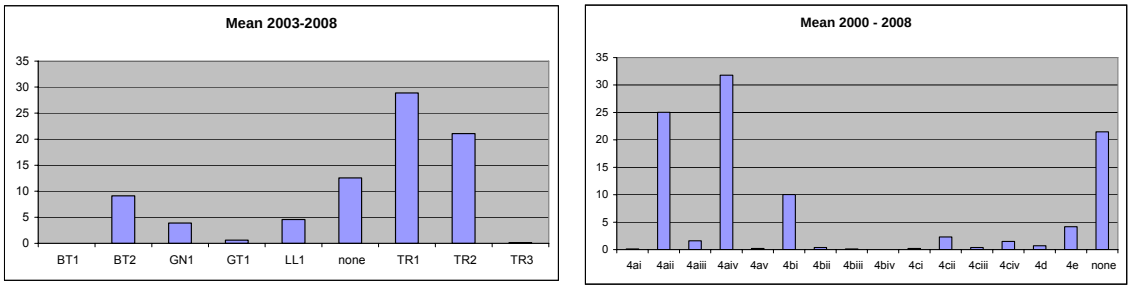


Figure 9.2.2. Contribution of each gear category to the total effort (kWdays) in the Celtic Sea (ICES Divisions VIIbc,e-k). Mean over 2003-2008. On the right panel, according to Annex IIA gear definition and on the left panel, according to cod plan gear definition.

The 'none' category means either that no information is available to allocate the effort data to a regulated gear in a mesh-size category or that there is no proposal to regulate that category of gear. This category accounts for around 23% in 2000-2002, when disaggregated Irish data are not available; this proportion fell to 11% since then (Figure 9.2.3).

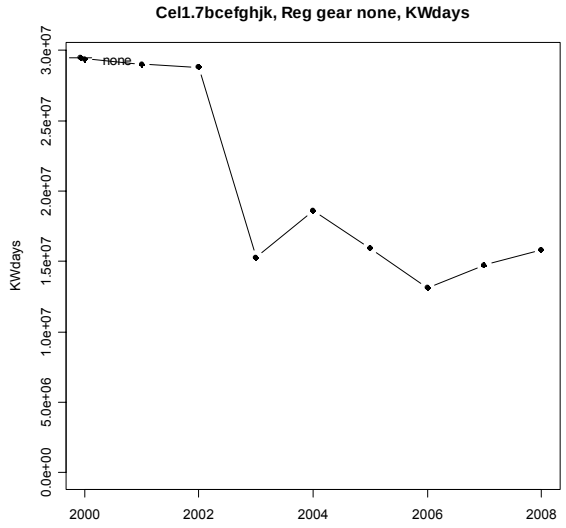


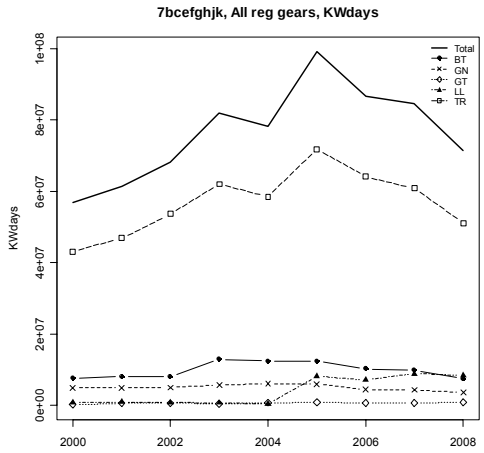
Fig. 9.2.3. Trend in nominal effort for gear-category 'none' in the Celtic Sea, 2000-2008.

Figures 9.2.4 to 9.2.9 show the recent trends in nominal effort for the various gear categories and mesh size in the Celtic Sea. Tables 9.2.1 to 9.2.3 provide details.

As the Spanish data are only available since 2005 and the rather large amount of 'none category' effort for some countries or some years, it is difficult to make any comments on the effort trends for any particular gear-category over the whole period 2000-2008, and comparison could only be made over the period 2005-2008.

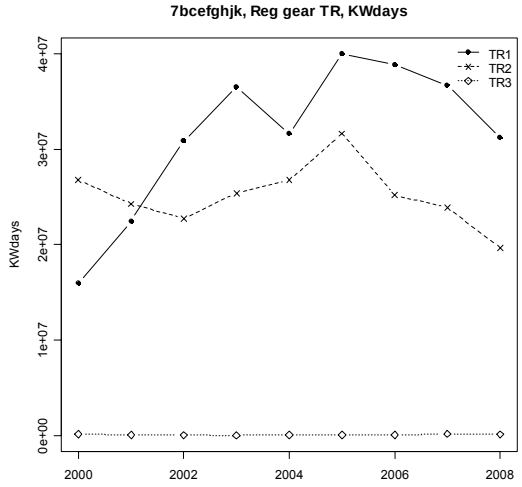
Total effort as shown in Figure 9.2.4 shows an artificial increase between 2000 and 2005 due to the inclusion of the Spanish data since 2005. Total effort has been decreasing since 2002 (a reduction of 13% between 2002 and 2007). Most of the decrease in effort occurred in 2006.

Figures 9.2.5, 9.2.6 and 9.2.7 show the fishing effort for the whole gear categories. As for the total, the fishing effort of these gears (in kW*days) shows a decrease in recent years, especially for TR2. Fig. 9.2.7 shows an artificial increase of the gear category LL1 in 2005 due to the inclusion of the Spanish data.



Spanish data available since 2005 Irish data not di
in
Trends by category should be looke
since 2005

Fig. 9.2.4. Trend in nominal effort by gear types in the Celtic Sea (ICES Divisions VIIbc,e-k), 2000-2008.



Spanish data available since 2005 Irish data not di
in
Trends by category should be looke
since 2005

Fig. 9.2.5. Trend in nominal effort for demersal trawl (Regulated Gear TR1, TR2 and TR3) in the Celtic Sea (ICES Divisions VIIbc,e-k), 2000-2008.

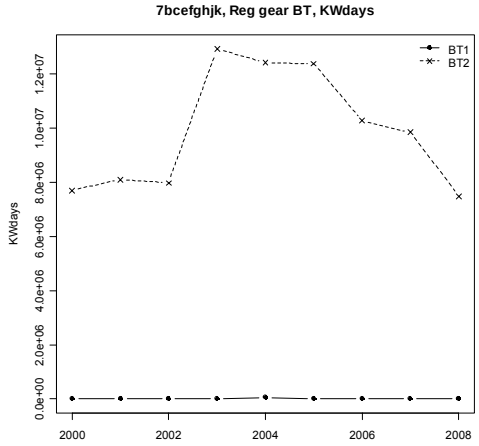


Fig. 9.2.6. Trend in nominal effort for beam trawl by mesh size range (Regulated Gear BT1, BT2) in the Celtic Sea (ICES Divisions VIIbc,e-k), 2000-2008.

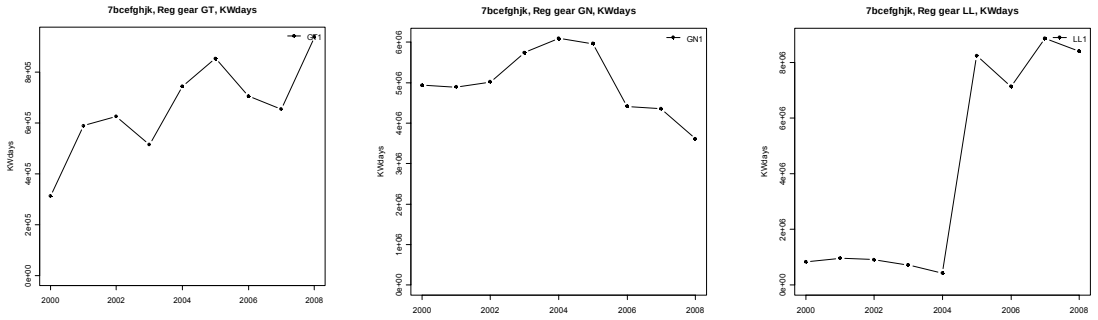


Fig. 9.2.7. Trend in nominal effort for Regulated Gear GT, GN1, LL1) in the Celtic Sea (ICES Divisions VIIbc,e-k), 2000-2008.

VIIfg – part of Celtic Sea

Contributions by different countries to overall effort in the smaller area, VIIfg are shown in (Figure 9.2.4.1). Vessels from Belgium, France, Ireland and UK(E-W) operate in the Divisions VIIfg. In terms of kW*days, France contributes 41%, Ireland 33%, UK 13% and Belgium 12% (average 2002-2008). Spain accounts for the small amount of remaining effort as the Netherlands.

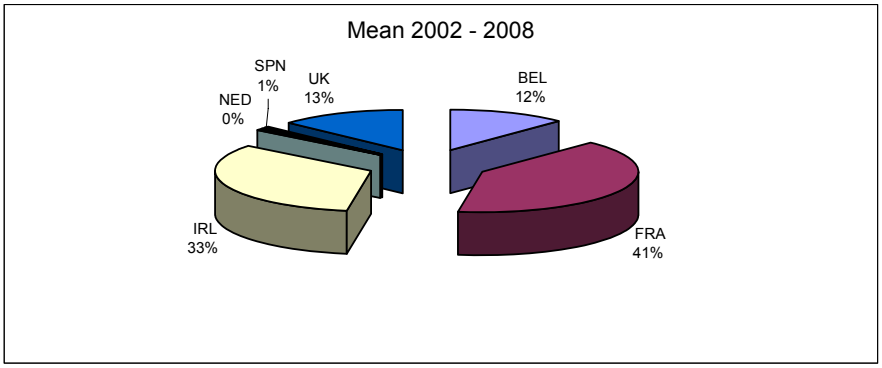


Figure 9.2.8. Contribution of each country to the total effort in the Divisions VIIfg (mean 2002-2008).

Effort combined across countries and summarized for different gear categories are given in Tables 9.2.6 and Tables 9.2.7.

Table 9.2.6 Trend in effort (kW*days at sea) by derogations existing in Appendix 1 of Annex IIA of Coun. Reg. 43/2009 and special condition (SPECON)in the ICES Divisions VIIfg, 2000-2008.

REG GEAI	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008
BT1	none				10273	8787				
BT2	none	3467305	3531420	3058600	6378724	6149956	5933245	4642445	4273347	2802280
GN1	none	658055	605772	655746	784712	964839	832500	618734	613444	668407
GT1	none	55	2092	936	5664	24690	9277	74253	66708	78358
LL1	none	81128	83967	54879	28062	33074	96970	57201	41251	44088
none	none	5792944	6214254	6157680	1540380	2073714	938406	692447	890919	917089
TR1	none	7717695	10443243	12982902	13763139	11141740	10252648	10096537	8694110	7385972
TR2	none	3594464	1740079	825271	3010638	2759665	4071210	3589615	3573089	3066795
TR3	none	34203	4850			22537	4519	15903	11918	10104

Table 9.2.4.7 Trend in effort (kW*days at sea) by derogations existing in Table 1 of Annex IIA of Coun. Reg. 40/2008. Derogations are sorted by gear and special condition (SPECON)in the ICES Divisions VIIfg, 2000-2008.

REG GEAI	SPECON	2000	2001	2002	2003	2004	2005	2006	2007	2008
4ai	none	34203	4850			22537	4519	15903	11918	10104
4aii	none	3465029	1641785	807822	2778533	2462395	3819881	3413860	3364323	2828893
4aiii	none	129435	98294	17449	232105	297270	251329	175755	208766	237902
4aiv	none	7717695	10433491	12960778	13728402	11134450	10252648	10095866	8685924	7373563
4av	none		9752	22124	34737	7290		671	8186	12409
4bi	none	3449496	3530418	3043467	5059441	5447506	4976563	4324244	4172519	2762274
4bii	none	17809	534	9829	1087351	434892	774940	252502	74214	12155
4biii	none		468	5304	231932	267558	181742	65699	26614	27851
4biv	none				10273	8787				
4ci	none	11909	21252	28373	41478	91278	240390	66479	43794	87452
4cii	none	334949	224293	394747	505828	479319	428398	376399	376048	433097
4ciii	none	60830	39133	31461	89810	115648	53105	48156	86133	71487
4civ	none	41912	66048	47471	38818	136789	107875	127553	107469	74962
4d	none	55	2092	936	5664	24690	9277	74159	66708	78358
4e	none	81128	83967	54879	28062	33074	96970	57201	41251	44088
none	none	6001399	6469300	6311374	1649158	2215519	941138	692688	890919	918498

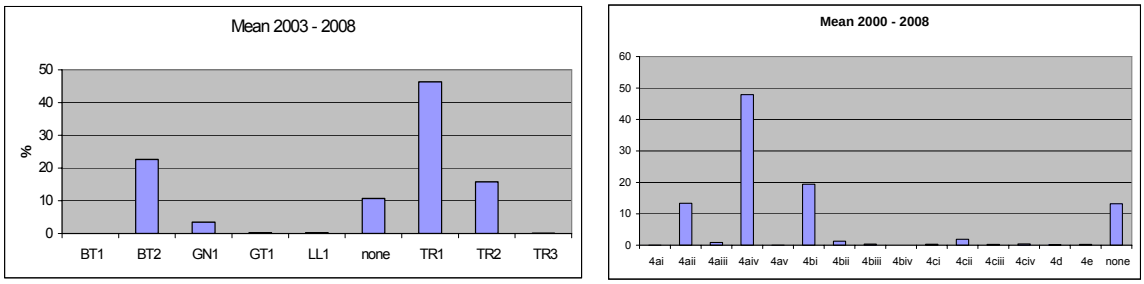
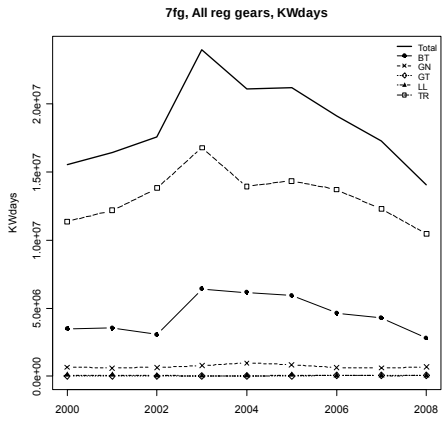


Figure 9.2.9. Contribution of each gear category (by derogations existing in Appendix 1 of Annex IIA of Coun. Reg. 43/2009 on the left panel and by derogations existing in Table 1 of Annex IIA of Coun. Reg. 40/2008 on the right panel) to the total effort (kW*days) in the ICES Divisions VIIfg. Mean over 2003-2008.

The mean proportion of total effort over the period 2003-2008 (to exclude years with no Irish disaggregated data) of each gear category (Figure 9.2.9) shows that the fishery in this area is dominated (46%) by the TR1. TR2 and BT2 contribute a further 15 and 22% respectively.



Spanish data available since 2005 Irish data not di
in
Trends by category should be looke since 2005

Fig. 9.2.10. Trend in nominal effort by gear types in the Celtic Sea (ICES Divisions VIIfg), 2000-2008.

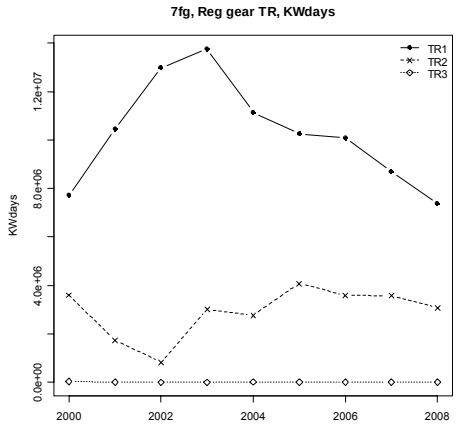


Fig. 9.2.11. Trend in nominal effort for demersal trawl (Regulated Gear TR1, TR2 and TR3) in the Celtic Sea (ICES Divisions VIIfg), 2000-2008.

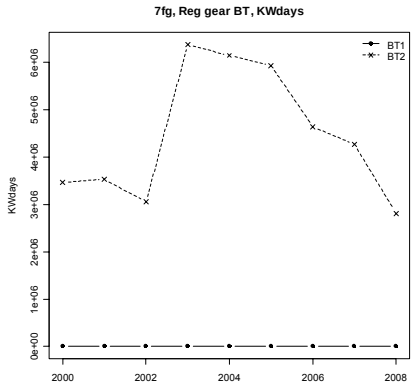


Fig. 9.2.12. Trend in nominal effort for beam trawl by mesh size range (Regulated Gear BT1, BT2) in the Celtic Sea (ICES Divisions VIIfg), 2000-2008.

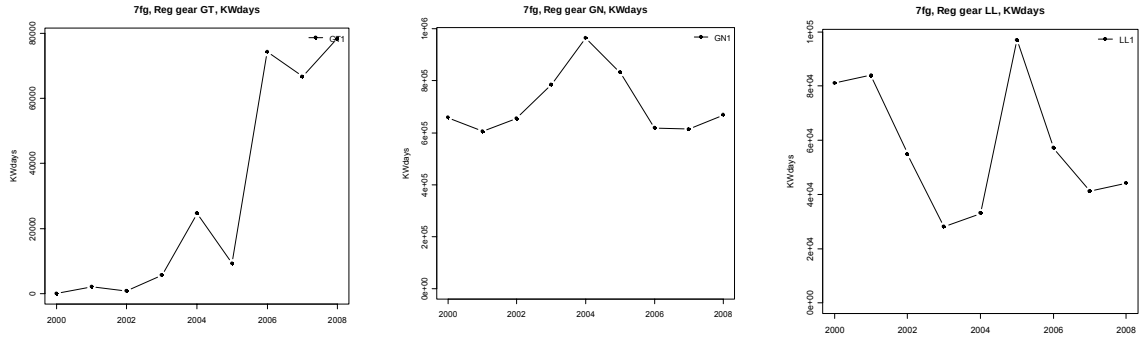


Fig. 9.2.13. Trend in nominal effort for beam trawl by mesh size range (Regulated Gear GT, GN1, LL1) in the Celtic Sea (ICES Divisions VIIfg), 2000-2008.

The total effort in area VIIfg has decreased by 46% since 2002. This decrease is mostly due to TR1 (a reduction of 42%).

Comparison between the two different area designations

The contributions to the total effort of the Celtic Sea as a whole (ICES Divisions VIIbc,e-k) and for the restricted area VIIfg differ depending of the country. In 2008 Spain contributes 17% to the total Celtic Sea area and less than 1% to the area VIIfg. England contributes less to the total in VIIfg (11%) than to the total Celtic Sea (14%). This is the opposite for Ireland which contributes 36% to the total in VIIfg but 14% in the whole Celtic Sea, and to a lesser extent Belgium (12% and 2% respectively). The contribution of France in both area is around 37%.

The contribution of the bottom trawls using 100-119 mm mesh size is higher in the Divisions VIIfg than for the Celtic Sea as a whole. Nets and longlines are not used significantly in this area.

9.3. Catch estimates in the Celtic Sea area

Introduction

As already indicated in the general section, only landings data are considered. However it should be kept in mind that discards for some species have been reported to ICES and appear to be rather high. This is particularly the case for cod in recent years because of high-grading practices as a response to prevent quota overshot.

Given the absence of full and reliable discards and scarce ageing information available, the Group considers that catch at age information should not be presented until it has been completed by all countries/years/gears. Table 9.3.1.1a-i presents the landings by species and category for 2003-2008.

Table 9.3.1.1a. Landings of anglerfish by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	ANF	1	11				
BT2	ANF	2 330	2 854	2 790	2 862	3 226	2 434
GN1	ANF	1 488	2 021	2 177	1 301	1 521	1 735
GT1	ANF	744	1 233	1 206	838	897	1 014
LL1	ANF	9	1	7	1	3	0
none	ANF	142	262	114	125	99	59
TR1	ANF	7 308	6 957	5 745	6 915	7 842	6 455
TR2	ANF	4 942	4 519	4 827	4 274	4 839	3 605
TR3	ANF	2		0	7	1	4

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	ANF	1	1				
BT2	ANF	1 159	1 283	1 091	1 117	1 139	795
GN1	ANF	118	152	137	90	60	77
GT1	ANF	4	9	12	33	20	29
LL1	ANF	0	0	0	0	0	0
none	ANF	35	83	4	7	1	2
TR1	ANF	1 809	1 561	1 114	1 218	1 310	1 246
TR2	ANF	302	278	362	407	563	529
TR3	ANF			0	0		0

Table 9.3.1.1b. Landings of cod by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	COD		1				0
BT2	COD	299	314	426	328	315	216
GN1	COD	155	174	210	230	261	217
GT1	COD	14	11	12	11	11	14
LL1	COD	19	6	4	20	3	3
none	COD	27	68	3	1	3	2
TR1	COD	3 715	1 845	1 128	1 370	1 845	1 840
TR2	COD	925	475	675	783	795	808
TR3	COD	0	0	0	0	0	0

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	COD		0				
BT2	COD	220	238	327	246	216	151
GN1	COD	77	121	154	166	173	160
GT1	COD	1	0	0	3	3	4
LL1	COD	1		2	2	0	0
none	COD	23	60	2	1	1	0
TR1	COD	2 796	1 366	797	970	1 357	1 014
TR2	COD	238	198	331	390	291	304
TR3	COD		0	0	0		0

Table 9.3.1.1c. Landings of haddock by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	HAD	0	1				
BT2	HAD	364	389	456	323	340	297
GN1	HAD	194	147	156	127	143	131
GT1	HAD	0	0	0	0	2	0
LL1	HAD	9	12	15	14	8	2
none	HAD	59	200	14	4	5	1
TR1	HAD	4 606	4 331	2 985	2 552	3 376	3 721
TR2	HAD	1 593	1 228	1 466	1 264	1 450	1 331
TR3	HAD	2	1	1	3	3	2

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	HAD	0	0				
BT2	HAD	264	306	369	277	280	236
GN1	HAD	67	94	87	56	72	90
GT1	HAD	0	0	0	0	1	0
LL1	HAD	0	1	1	1	0	0
none	HAD	34	132	5	2	0	0
TR1	HAD	2 534	2 666	1 658	1 291	1 810	1 754
TR2	HAD	435	428	719	620	542	421
TR3	HAD		0	0	0		

Table 9.3.1.1d. Landings of hake by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	HKE	0	0				
BT2	HKE	109	77	72	74	70	46
GN1	HKE	3 437	3 684	3 100	3 599	3 880	2 444
GT1	HKE	5	3	5	6	4	4
LL1	HKE	2 998	4 082	1 827	1 291	1 298	5 908
none	HKE	35	83	18	75	93	5
TR1	HKE	3 486	3 382	3 746	6 855	4 141	3 318
TR2	HKE	2 846	3 370	722	859	12 032	2 716
TR3	HKE	0	0	0	0		0

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	HKE	0	0				
BT2	HKE	75	51	52	57	58	30
GN1	HKE	308	418	423	503	271	441
GT1	HKE	0	0	0	3	3	2
LL1	HKE	2	6	5	7	32	3
none	HKE	13	36	0	0	5	
TR1	HKE	349	308	376	403	467	340
TR2	HKE	119	104	96	113	104	99
TR3	HKE			0	0		0

Table 9.3.1.1e. Landings of Nephrops by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	NEP	0					
BT2	NEP	68	57	104	92	88	34
GN1	NEP	1	16	20	4	0	5
GT1	NEP	1		0	0	0	0
none	NEP	69	294	58	13	11	6
TR1	NEP	4 062	3 252	3 435	3 255	3 102	3 712
TR2	NEP	2 956	2 446	4 040	3 399	5 287	5 020
TR3	NEP	9			2		1

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	NEP	0					
BT2	NEP	57	44	88	85	86	33
GN1	NEP	0	12	12	4	0	4
GT1	NEP	1					
none	NEP	45	238	7	4	2	1
TR1	NEP	3 065	2 313	2 236	2 252	2 028	2 735
TR2	NEP	1 722	1 520	2 531	1 884	3 184	3 253
TR3	NEP				0		

Table 9.3.1.1 f. Landings of plaice by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	PLE		0				23
BT2	PLE	1 186	1 154	1 003	945	783	700
GN1	PLE	4	9	8	4	3	5
GT1	PLE	9	16	22	28	9	5
LL1	PLE	0	0	0	0	0	0
none	PLE	26	30	24	15	13	12
TR1	PLE	241	172	118	115	113	155
TR2	PLE	457	376	415	464	413	437
TR3	PLE	0	0	0	1	2	1

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	PLE		0				
BT2	PLE	291	254	194	172	184	143
GN1	PLE	0	1	1	1	1	2
GT1	PLE	0	0	0	1	1	2
LL1	PLE	0					0
none	PLE	8	4	1	0	0	0
TR1	PLE	159	114	76	69	66	94
TR2	PLE	61	51	57	92	92	121
TR3	PLE			0			

Table 9.3.1.1g. Landings of saithe by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	POK		0				
BT2	POK	14	13	10	3	2	1
GN1	POK	416	310	261	191	198	133
GT1	POK	1	0	1	1	6	4
LL1	POK	0	2	2	0	4	1
none	POK	20	51	3	0	0	0
TR1	POK	391	694	228	267	276	190
TR2	POK	158	112	91	41	54	20

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	POK		0				
BT2	POK	12	12	9	3	2	1
GN1	POK	177	190	139	110	114	79
GT1	POK	0	0	0	1	4	2
LL1	POK		0	0	0		0
none	POK	7	28	0		0	0
TR1	POK	127	80	51	69	61	32
TR2	POK	41	54	57	21	21	5

Table 9.3.1.1h. Landings of sole by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	SOL	0	1				
BT2	SOL	1 486	1 413	1 562	1 397	1 375	1 126
GN1	SOL	13	23	18	8	12	16
GT1	SOL	39	41	80	48	51	60
LL1	SOL	0	0	0	0	0	0
none	SOL	51	59	58	49	47	42
TR1	SOL	211	151	127	118	95	108
TR2	SOL	376	313	379	386	410	358
TR3	SOL	1	0	0	0	0	0

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	SOL	0	0				
BT2	SOL	1 010	966	841	728	751	609
GN1	SOL	2	1	2	1	1	1
GT1	SOL		0	0	2	3	27
LL1	SOL	0		0	0		
none	SOL	4	4	1	0	0	0
TR1	SOL	113	70	57	53	40	40
TR2	SOL	34	44	48	75	73	74
TR3	SOL			0			

Table 9.3.1.1 i. Landings of whiting by category. Left: Celtic Sea, Right : Divisions VIIfg

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	WHG	0	0				
BT2	WHG	275	248	276	128	147	137
GN1	WHG	163	144	104	54	53	38
GT1	WHG	1	0	1	1	4	0
LL1	WHG	2	4	2	4	1	1
none	WHG	207	585	20	19	9	6
TR1	WHG	4 531	3 566	4 097	3 274	2 835	2 100
TR2	WHG	4 472	3 859	6 079	4 443	4 928	2 605
TR3	WHG	7	4	3	3	4	8

Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	WHG	0	0				
BT2	WHG	183	178	216	81	100	88
GN1	WHG	52	95	38	13	16	16
GT1	WHG	0	0	0	0	0	0
LL1	WHG	0	0	0	0	0	0
none	WHG	156	510	7	13	0	
TR1	WHG	3 026	2 601	3 060	2 552	2 181	1 404
TR2	WHG	1 979	2 190	4 418	3 142	3 406	1 064
TR3	WHG		0	0	1		

Celtic Sea overall area, all species

Figure 9.3.1. shows that landings from the Celtic Sea are dominated by anglerfish and hake. Whiting, haddock and Nephrops also contribute substantially.

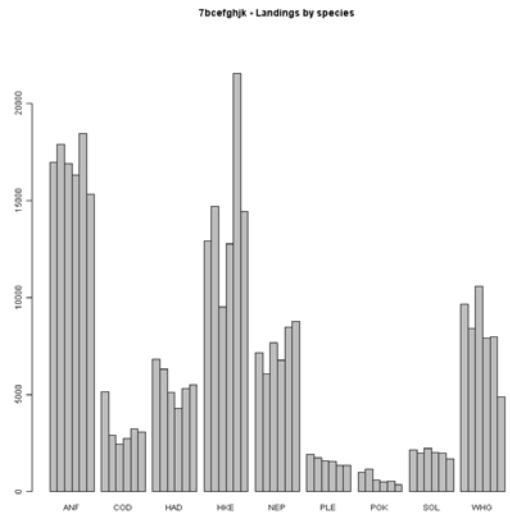


Figure 9.3.1. Landings by species and by year (2003-2008 from left to right) from the Celtic Sea (ICES Divisions VIIbc,e-k).

Cod landings

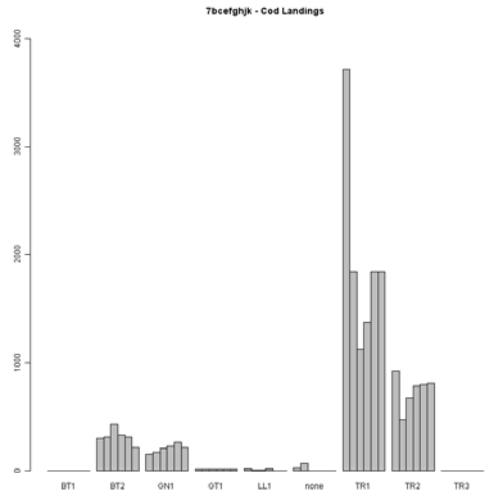


Figure 9.3.2. Cod landings from the Celtic Sea (ICES Divisions VIIbc,e-k) by each gear grouping and by year (2003-2008 from left to right).

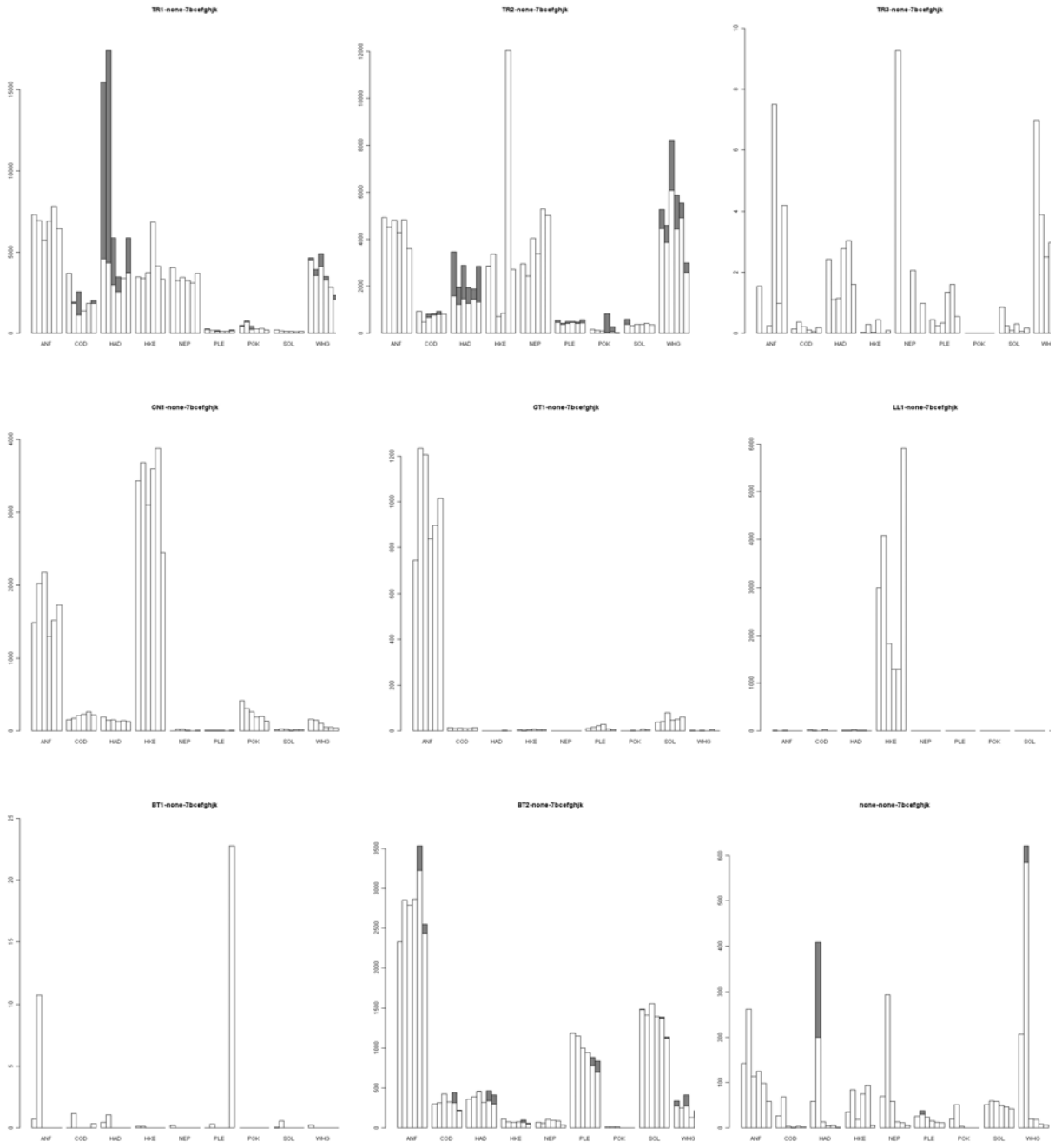


Figure 9.3.3. Landings (t) (in white) and discard (t) (in grey) by gear grouping and species, 2003-2008 (from left to right) in the Celtic Sea (ICES Divisions VIIbc,e-k). Note that discard data are only available for some species and gears, so the lack of discard information for a given species/gear in the graphs means no information rather than zero discards.

VIIfg subset of Celtic sea

Because anglerfish and hake are mainly taken with nets and lines on the shelf of the Celtic Sea, it is not surprising to see that their contributions to the landings of the VIIfg area are

much lower than for the whole Celtic Sea. Whiting, haddock, Nephrops, anglerfish and cod are the major contributors to the landings in that area.

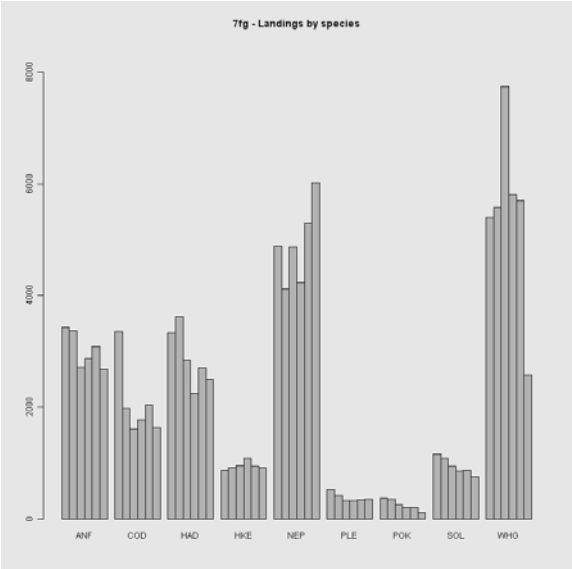


Figure 9.3.4. Landings by species and by year (2003-2008 from left to right) from the ICES Divisions VIIfg.

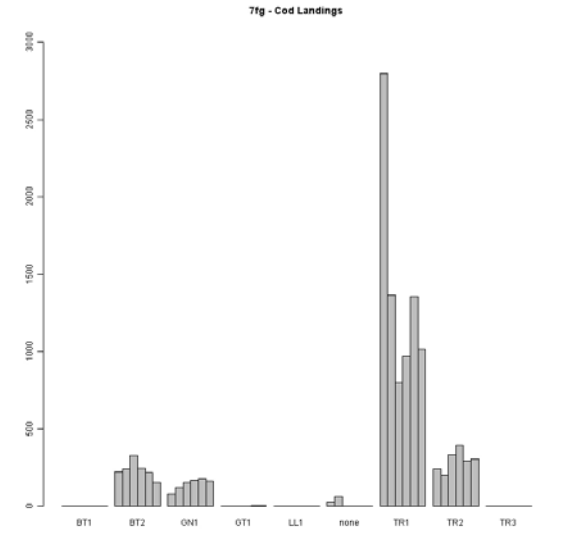


Figure 9.3.5. Cod landings from the 'Cod area' (ICES Divisions VIIfg) by each gear grouping and by year (2003-2008 from left to right).

Landings of cod are mostly due to TR1 (about 59% of the total for the whole Celtic Sea in 2008 and 62% for Divisions VIIfg), while the TR2 category represents 26% and 18% of these areas respectively, and the beam trawl using 80-89mm (4bi) 6 and 9% respectively .

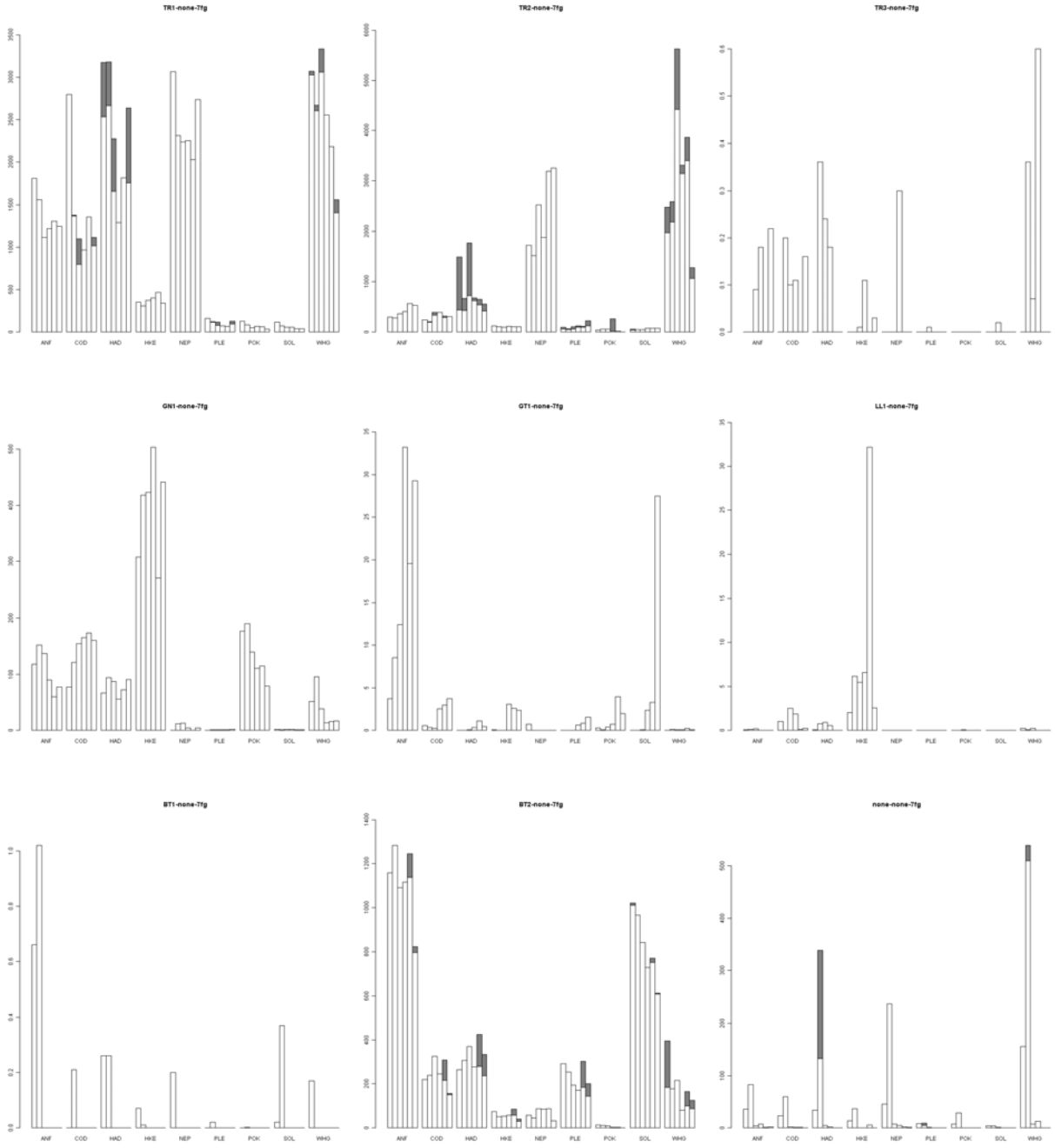


Figure 9.3.6. Landings (t) (in white) and discard (t) (in grey) by gear grouping and species, 2003-2008 (from left to right) in ICES Divisions VIIfg. Note that discard data are only available for some species and gears, so the lack of discard information for a given species/gear in the graphs means no information rather than zero discards.

9.4. Celtic Sea LPUE

Given the incomplete information reported for the discards, the group decided to present the results on the LPUE rather than CPUE. Tables 9.4.1 – 9.4.3 summarize the available information for cod, hake and Nephrops respectively.

Table 9.4.1. Cod LPUE (g/(kW*days)) by gear/mesh-size category and year, 2003-2008.

ANNEX	SPECIES	REG ARE/	REG GEAR	2003	2004	2005	2006	2007	2008
Cel1	COD	7bcefghjk	BT1		19				0
Cel1	COD	7bcefghjk	BT2	23	25	34	32	32	29
Cel1	COD	7bcefghjk	GN1	27	29	35	52	60	60
Cel1	COD	7bcefghjk	GT1	27	15	14	14	17	15
Cel1	COD	7bcefghjk	LL1	26	14	0	3	0	0
Cel1	COD	7bcefghjk	none	2	4	0	0	0	0
Cel1	COD	7bcefghjk	TR1	102	58	28	35	50	59
Cel1	COD	7bcefghjk	TR2	36	18	21	31	33	41
Cel1	COD	7bcefghjk	TR3	0	0	0	0	0	0

ANNEX	SPECIES	REG ARE/	REG GEAI	2003	2004	2005	2006	2007	2008
Cel2	COD	7fg	BT1		0				
Cel2	COD	7fg	BT2	34	39	55	53	51	54
Cel2	COD	7fg	GN1	97	126	185	268	284	239
Cel2	COD	7fg	GT1	0	0	0	27	45	51
Cel2	COD	7fg	LL1	36		21	35	0	0
Cel2	COD	7fg	none	15	29	2	1	0	0
Cel2	COD	7fg	TR1	203	123	78	96	156	137
Cel2	COD	7fg	TR2	79	71	81	109	81	99
Cel2	COD	7fg	TR3		0	0	0		0

Table 9.4.2. Hake LPUE (g/(kW*days)) by gear/mesh-size category and year, 2003-2008.

ANNEX	SPECIES	REG ARE/	REG GEAR	2003	2004	2005	2006	2007	2008
Cel1	HKE	7bcefghjk	BT1	0	0				
Cel1	HKE	7bcefghjk	BT2	9	6	6	7	7	6
Cel1	HKE	7bcefghjk	GN1	598	604	520	816	891	678
Cel1	HKE	7bcefghjk	GT1	10	4	6	9	8	4
Cel1	HKE	7bcefghjk	LL1	4169	9602	222	181	146	703
Cel1	HKE	7bcefghjk	none	2	5	1	6	6	0
Cel1	HKE	7bcefghjk	TR1	96	107	94	177	113	106
Cel1	HKE	7bcefghjk	TR2	112	126	23	34	503	138
Cel1	HKE	7bcefghjk	TR3	0	0	0	0		0

ANNEX	SPECIES	REG ARE/	REG GEAI	2003	2004	2005	2006	2007	2008
Cel2	HKE	7fg	BT1	0	0				
Cel2	HKE	7fg	BT2	12	8	9	12	14	11
Cel2	HKE	7fg	GN1	391	433	508	813	440	661
Cel2	HKE	7fg	GT1	0	0	0	40	45	26
Cel2	HKE	7fg	LL1	71	181	52	105	776	68
Cel2	HKE	7fg	none	8	17	0	0	6	
Cel2	HKE	7fg	TR1	25	28	37	40	54	46
Cel2	HKE	7fg	TR2	40	38	23	31	29	33
Cel2	HKE	7fg	TR3			0	0		0

Table 9.4.3. Nephrops LPUE (g/(kW*days)) by gear/mesh-size category and year, 2003-2008.

ANNEX	SPECIES	REG ARE/	REG GEAR	2003	2004	2005	2006	2007	2008
Cel1	NEP	7bcefghjk	BT1	0					
Cel1	NEP	7bcefghjk	BT2	5	5	8	9	9	5
Cel1	NEP	7bcefghjk	GN1	0	3	3	1	0	1
Cel1	NEP	7bcefghjk	GT1	2		0	0	0	0
Cel1	NEP	7bcefghjk	none	5	16	4	1	1	0
Cel1	NEP	7bcefghjk	TR1	111	103	86	84	85	119
Cel1	NEP	7bcefghjk	TR2	116	91	128	135	221	255
Cel1	NEP	7bcefghjk	TR3	134			17		6

ANNEX	SPECIES	REG ARE/	REG GEAI	2003	2004	2005	2006	2007	2008
Cel2	NEP	7fg	BT1	0					
Cel2	NEP	7fg	BT2	9	7	15	18	20	12
Cel2	NEP	7fg	GN1	0	12	14	6	0	6
Cel2	NEP	7fg	GT1	177					
Cel2	NEP	7fg	none	29	115	7	6	2	1
Cel2	NEP	7fg	TR1	223	208	218	223	233	370
Cel2	NEP	7fg	TR2	572	551	621	524	891	1061
Cel2	NEP	7fg	TR3				0		

LPUE 7bcefghjk LPUE 7fg

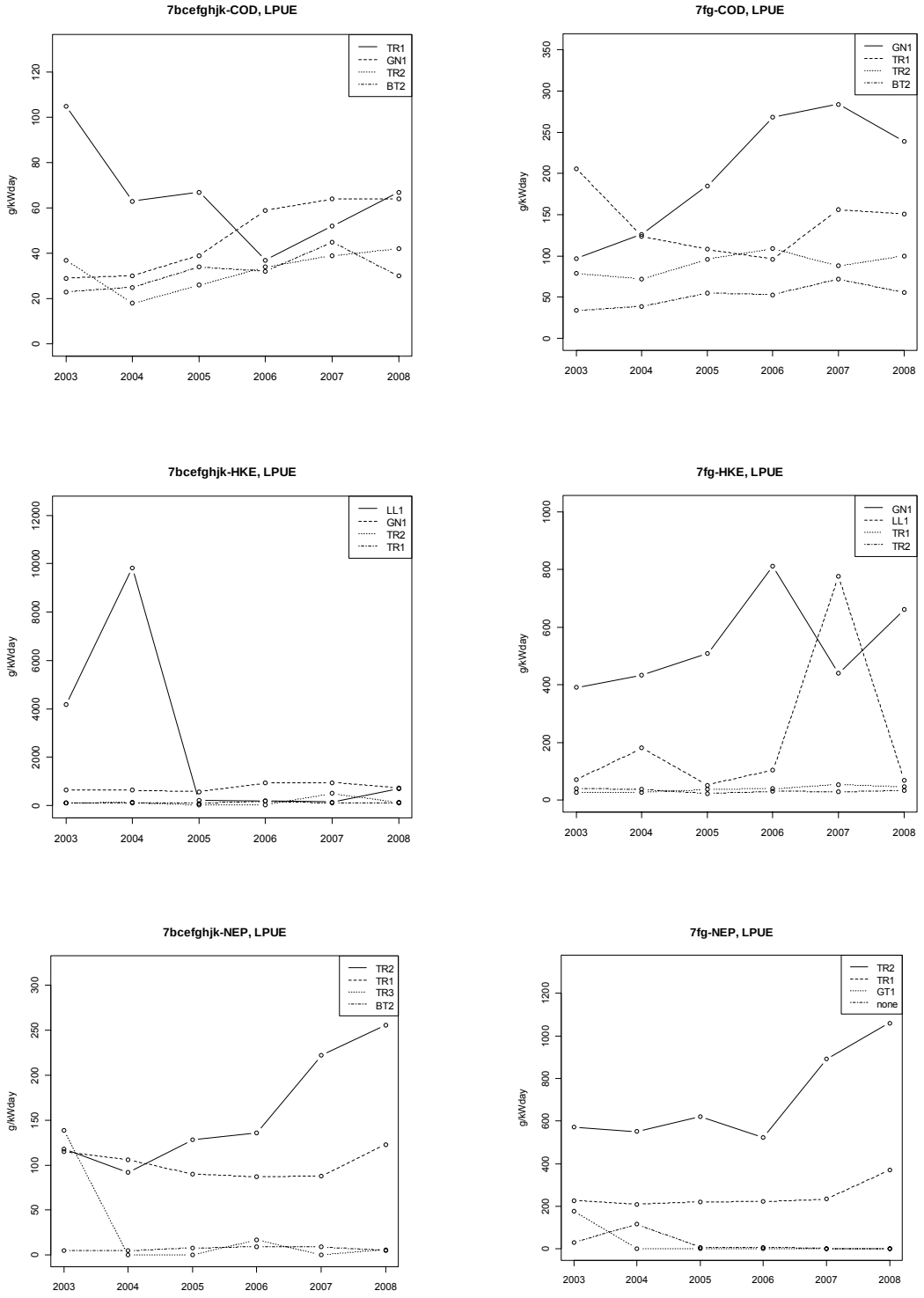


Figure 9.4.1. LPUE for cod, hake and Nephrops (from top to bottom) and for Celtic Sea and VIIfg (from left to right) and for gear category and years 2003-2008. (NOT UPDATED)

Figure 9.4.1 shows that after a decrease in the earlier period (2003-2005) of around 60%, the CPUE of cod for the category contributing most to the landings (TR1), experiences an increase in recent years of about 60 and 70% respectively for the whole Celtic Sea and for area VIIfg).

Comparison of the two regions Cel1and Cel2

Table 9.4.1 and Figure 9.4.2 suggest that LPUE of cod are much higher in VIIfg than in the Celtic Sea as a whole for most/all the gear and mesh size-category. This is particularly the case for the two main categories, TR1 and TR2 for which the cod CPUE is 2.1 and 3.3 times higher respectively.

9.5. Celtic sea Ranked gear categories

Tables 9.5.1 and 9.5.2 provide an indication of the ranking (highest first) of cod catches in different gear categories for Celtic Sea overall and VIIfg part of Celtic Sea.

Table 9.5.1. Celtic Sea - Ranked derogations according to relative cod landings in weight (t) 2003-2007. Ranking is according to 2008.

REG_GEAR	2003	2004	2005	2006	2007	2008	mean 2006-2008
TR1	72%	64%	46%	50%	57%	59%	55%
TR2	18%	16%	27%	29%	25%	26%	27%
BT2	6%	11%	17%	12%	10%	7%	10%
GN1	3%	6%	9%	8%	8%	7%	8%
GT1	0%	0%	0%	0%	0%	0%	0%
TR3	0%	0%	0%	0%	0%	0%	0%
LL1	0%	0%	0%	1%	0%	0%	0%
BT1	0%	0%	0%	0%	0%	0%	0%
none	1%	2%	0%	0%	0%	0%	0%
total	100%	99%	99%	100%	100%	99%	100%

Table 9.5.2. Divisions VIIfg - Ranked derogations according to relative cod landings in weight (t) 2003-2007. Ranking is according to 2008.

REG_GEAR	2003	2004	2005	2006	2007	2008	mean 2006-2008
TR1	83%	69%	49%	55%	66%	62%	61%
TR2	7%	10%	21%	22%	14%	19%	18%
GN1	2%	6%	10%	9%	8%	10%	9%
BT2	7%	12%	20%	14%	11%	9%	11%
TR3	0%	0%	0%	0%	0%	0%	0%
none	1%	3%	0%	0%	0%	0%	0%
LL1	0%	0%	0%	0%	0%	0%	0%
GT1	0%	0%	0%	0%	0%	0%	0%
BT1	0%	0%	0%	0%	0%	0%	0%
total	100%	100%	100%	100%	99%	100%	100%

In both areas, category TR1 contributes 60-70% to the total landings of cod.

9.6. Celtic Sea Unregulated/Unallocated gear

Table 9.2.1. gives the trends of the effort reported in this category. Given the category definition, it refers to non-regulated gear (pots etc.) only.

9.7. Celtic Sea Under 10m

Information for French, English and Irish under 10m fleets were available. Irish information was not available by gear type, therefore in the following tables, data for Irish fleets are aggregated in the 'none' category. Tables 9.7.1 to 9.7.6 present landings for plaice, sole and cod by all gear types used by these vessels in the Celtic Sea and in Divisions VIIfg. Information for other countries is given by gear type, however this information is known to be incomplete.

Table 9.7.1. Plaice landings from vessels under 10m and gar grouping in ICES Divisions VIIb-k. Partial information.

COUNTRY	GEAR	2002	2003	2004	2005	2006	2007	2008
ENG	BEAM	0,0	0,2	0,5	4,6	15,3	4,4	2,1
ENG	GILL	0,0	3,6	7,1	3,4	13,6	13,1	9,4
ENG	OTTER	0,0	83,1	64,4	40,5	106,1	81,6	75,9
FRA	BEAM	49,8	57,2	58,4	53,9	26,9	27,3	30,8
FRA	DREDGE	1,3	0,6	0,3	15,3	21,4	11,7	13,3
FRA	GILL	21,4	27,3	9,5	18,9	45,4	38,9	4,7
FRA	OTTER	53,7	51,7	59,4	53,7	47,8	42,5	32,0
FRA	TRAMMEL	117,7	103,0	88,2	98,4	118,6	116,8	51,2
	Total	243,8	326,7	287,8	288,6	395,1	336,2	219,3

Table 9.7.2. Plaice landings from vessels under 10m and gar grouping in ICES Divisions VIIf-g. Partial information.

COUNTRY	GEAR	2002	2003	2004	2005	2006	2007	2008
ENG	BEAM	0,0	0,0	0,3	0,0	0,2	0,0	0,7
ENG	DREDGE	0,0	0,0	0,0	0,0	0,0	0,0	0,0
ENG	GILL	0,0	0,3	0,5	0,1	2,7	3,5	2,0
ENG	LONGLINE	0,0	0,2	0,1	0,0	0,1	0,0	0,0
ENG	OTTER	0,0	18,3	11,5	12,6	31,2	17,5	16,2
ENG	POTS	0,0	0,1	0,0	0,0	0,0	0,0	0,0
ENG	TRAMMEL	0,0	0,0	0,0	0,1	0,0	0,0	0,0
IRL	none	0,0	0,0	0,0	0,0	1,1	0,0	2,9
	Total	0,0	18,9	12,3	12,7	35,4	21,0	21,8

Table 9.7.3. Sole landings from vessels under 10m and gar grouping in ICES Divisions VIIb-k. Partial information.

COUNTRY	GEAR	2002	2003	2004	2005	2006	2007	2008
ENG	BEAM	0,0	0,2	0,9	7,0	8,5	6,2	7,1
ENG	DREDGE	0,0	0,3	0,6	0,4	0,8	1,3	1,2
ENG	GILL	0,0	6,5	6,7	7,7	21,3	16,7	21,8
ENG	OTTER	0,0	25,4	16,6	18,0	49,6	41,4	25,9
FRA	BEAM	44,6	48,6	51,2	34,8	14,5	21,0	33,9
FRA	DREDGE	1,4	1,1	0,5	8,6	16,1	10,9	9,6
FRA	GILL	27,8	31,6	13,3	24,0	17,3	20,2	4,3
FRA	LONGLINE	1,7	2,2	1,6	1,7	0,5	0,4	0,1
FRA	OTTER	50,9	62,5	67,3	43,0	64,8	66,8	42,5
FRA	POTS	0,5	1,0	3,6	1,1	0,3	0,3	0,1
FRA	TRAMMEL	161,2	189,2	169,2	153,0	148,2	139,6	84,5
IRL	none	0,0	4,0	1,3	0,1	0,4	0,5	0,2
	Total	288,0	372,6	332,7	299,3	342,4	325,4	231,3

Table 9.7.4. Sole landings from vessels under 10m and gar grouping in ICES Divisions VIIf-g. Partial information.

COUNTRY	GEAR	2002	2003	2004	2005	2006	2007	2008
ENG	BEAM	0,0	0,0	0,7	0,0	1,1	1,6	5,1
ENG	DREDGE	0,0	0,0	0,1	0,0	0,1	0,1	0,0
ENG	GILL	0,0	0,3	1,3	0,0	3,0	3,3	1,0
ENG	LONGLINE	0,0	0,1	0,0	0,0	0,0	0,0	0,0
ENG	OTTER	0,0	14,4	8,4	7,9	27,2	17,6	14,0
ENG	POTS	0,0	0,0	0,0	0,0	0,1	0,0	0,0
IRL	none	0,0	4,0	0,0	0,0	0,4	0,0	0,1
Total		0,0	18,8	10,6	8,0	31,9	22,6	20,3

Table 9.7.5. Cod landings from vessels under 10m and gar grouping in ICES Divisions VIIb-k. Partial information.

COUNTRY	GEAR	2002	2003	2004	2005	2006	2007	2008
ENG	GILL	0,0	21,1	16,1	10,6	29,1	36,4	18,6
ENG	LONGLINE	0,0	0,0	0,0	0,1	0,8	0,7	1,9
ENG	OTTER	0,0	13,6	10,6	21,1	26,2	28,8	16,3
ENG	POTS	0,0	5,5	0,0	0,0	0,0	0,0	0,1
FRA	GILL	29,4	58,5	32,7	26,2	17,7	9,2	11,1
FRA	LONGLINE	0,3	1,8	0,9	1,5	4,7	2,5	2,9
FRA	OTTER	4,1	1,5	1,0	1,9	0,7	6,6	4,6
FRA	POTS	0,6	0,2	0,0	0,0	0,1	0,0	0,2
FRA	TRAMMEL	24,2	57,1	19,0	22,0	22,3	53,7	33,2
IRL	none	0,0	122,9	17,4	19,2	11,0	0,0	1,2
Total		58,7	282,1	97,7	102,6	112,5	138,0	90,2

Table 9.7.6. Cod landings from vessels under 10m and gar grouping in ICES Divisions VIIf-g. Partial information.

COUNTRY	GEAR	2002,0	2003,0	2004,0	2005,0	2006,0	2007,0	2008,0
ENG	BEAM	0,0	0,0	0,0	0,0	0,0	0,0	0,1
ENG	GILL	0,0	0,4	0,9	0,9	5,8	4,7	2,0
ENG	LONGLINE	0,0	0,0	0,0	0,1	0,5	0,1	0,0
ENG	OTTER	0,0	3,4	1,8	15,4	12,2	8,0	2,3
ENG	POTS	0,0	0,1	0,0	0,0	0,0	0,0	0,0
IRL	none	0,0	59,9	17,0	18,6	9,5	0,0	1,0
Total		0,0	63,8	19,8	35,0	28,1	12,9	5,3

Since the data are regarded as incomplete, these figures represent minimum estimates of the contribution of under 10m vessels.

9.8. Relative importance of un-regulated and under 10m vessels in overall

The two previous sections suggest that even though the fishing effort for unregulated/undefined gear/mesh-size and under 10 m vessels can sometimes be quite high, the impact of cod appears to be relatively insignificant. This, however, needs to be confirmed when under 10m vessels information is available for all countries involved.

9.9. Celtic Sea spatial presentations

Figure 9.9.1. below shows the fishing effort (in hours fished) by ICES rectangle for 2003-2008 for the main gear grouping.

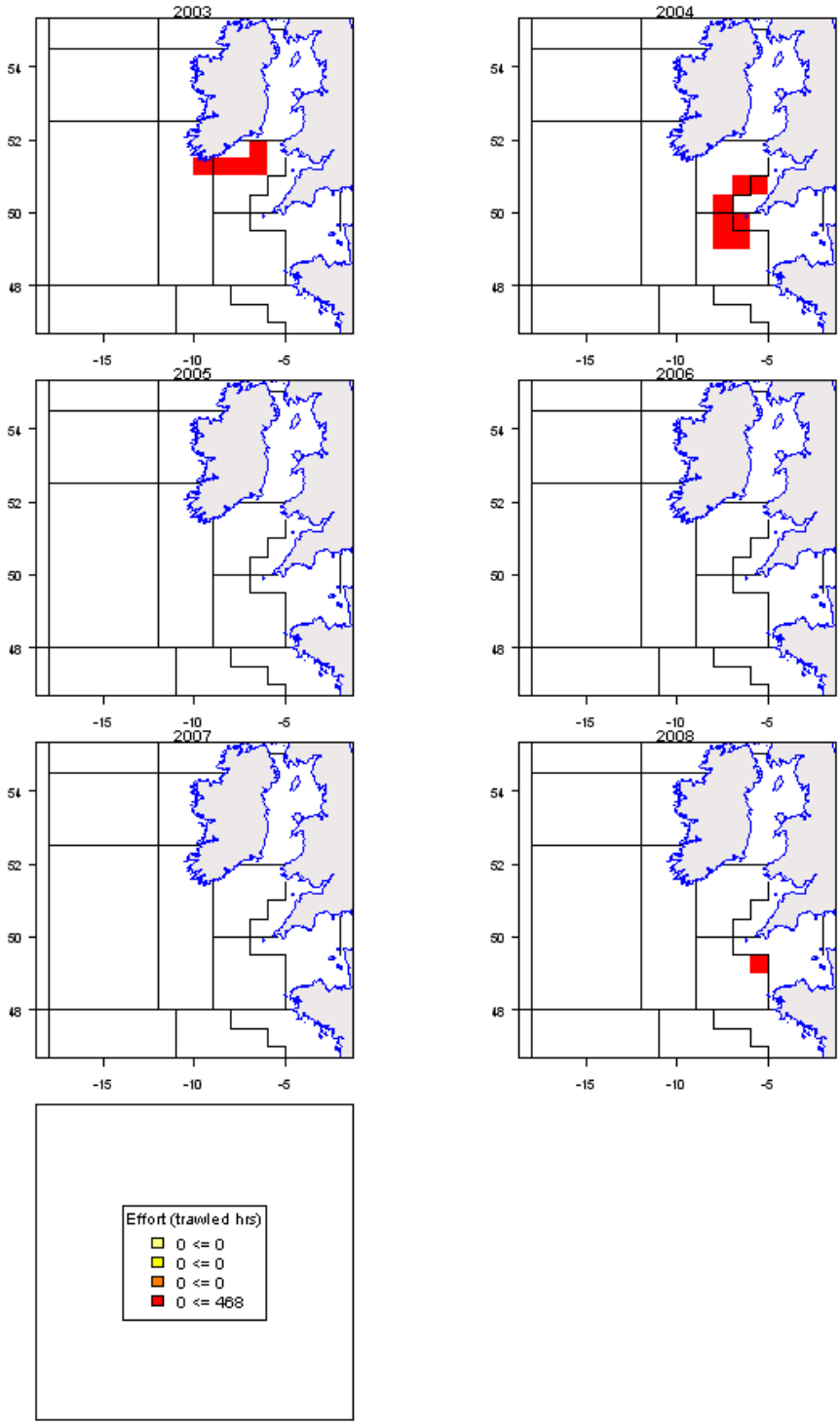


Figure 9.9.1. Fishing effort (in hours fished) by ICES rectangle for 2003-2008 for the main gear grouping BT1.

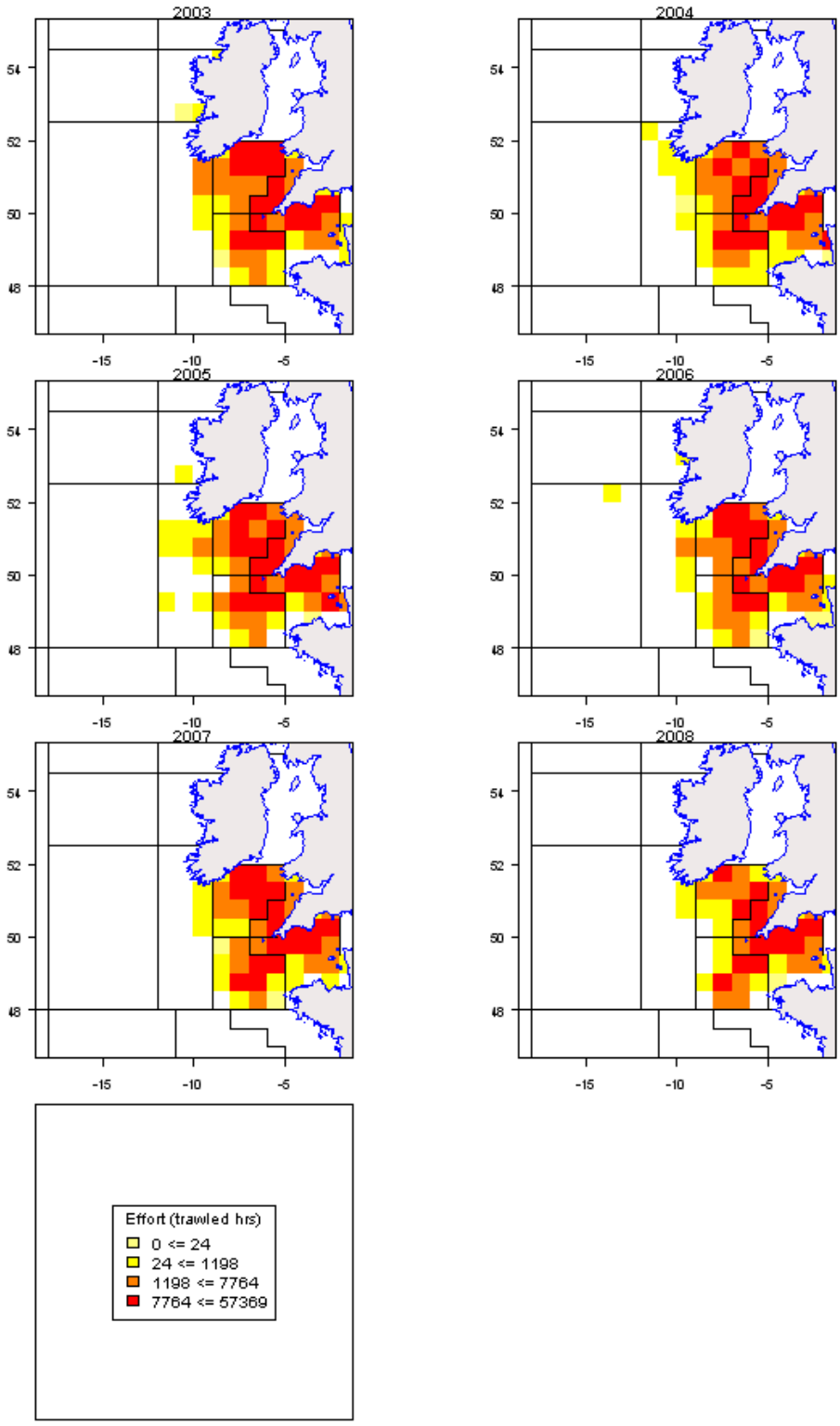


Figure 9.9.1. continued for BT2.

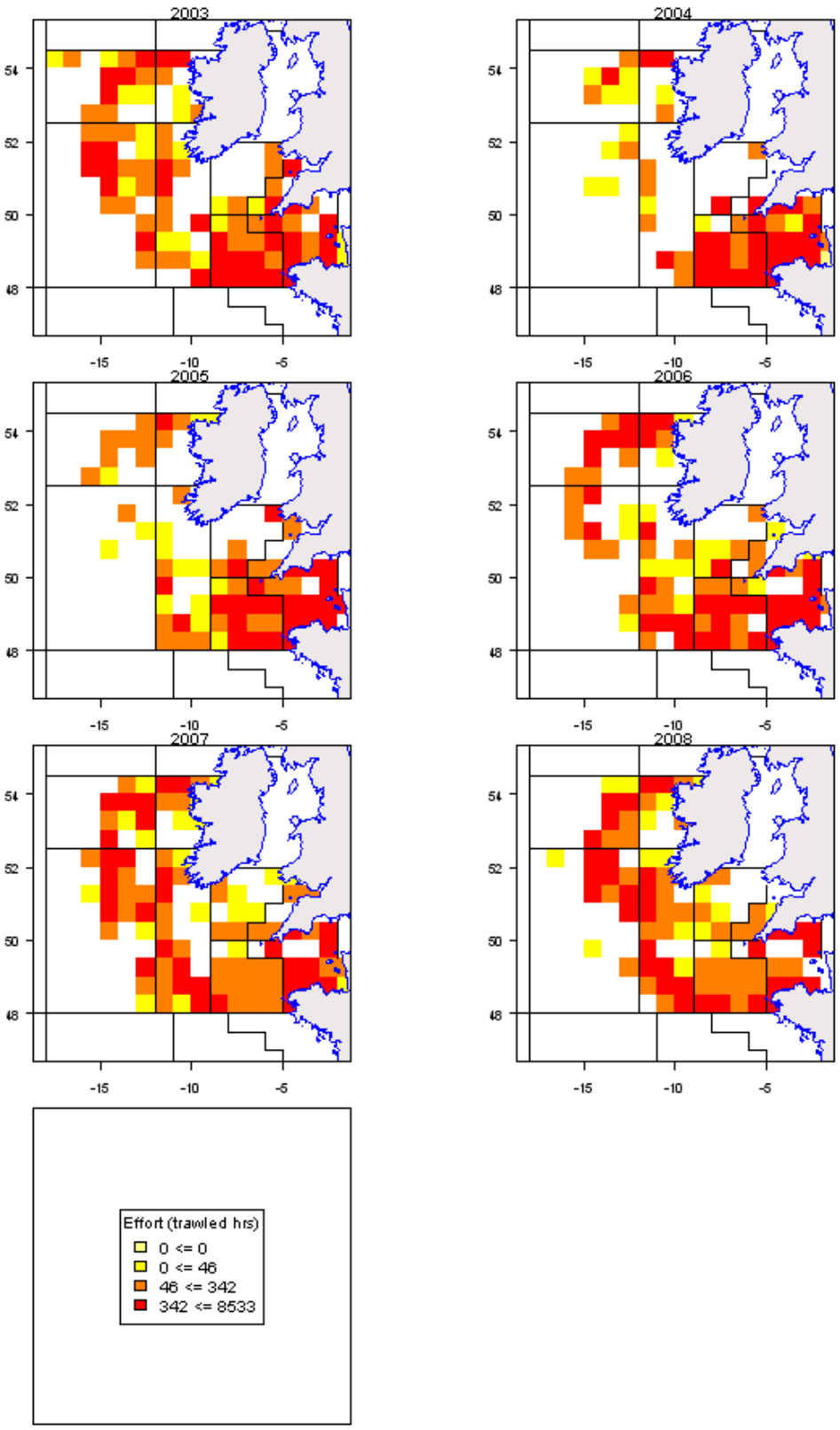


Figure 9.9.1. continued for LL1.

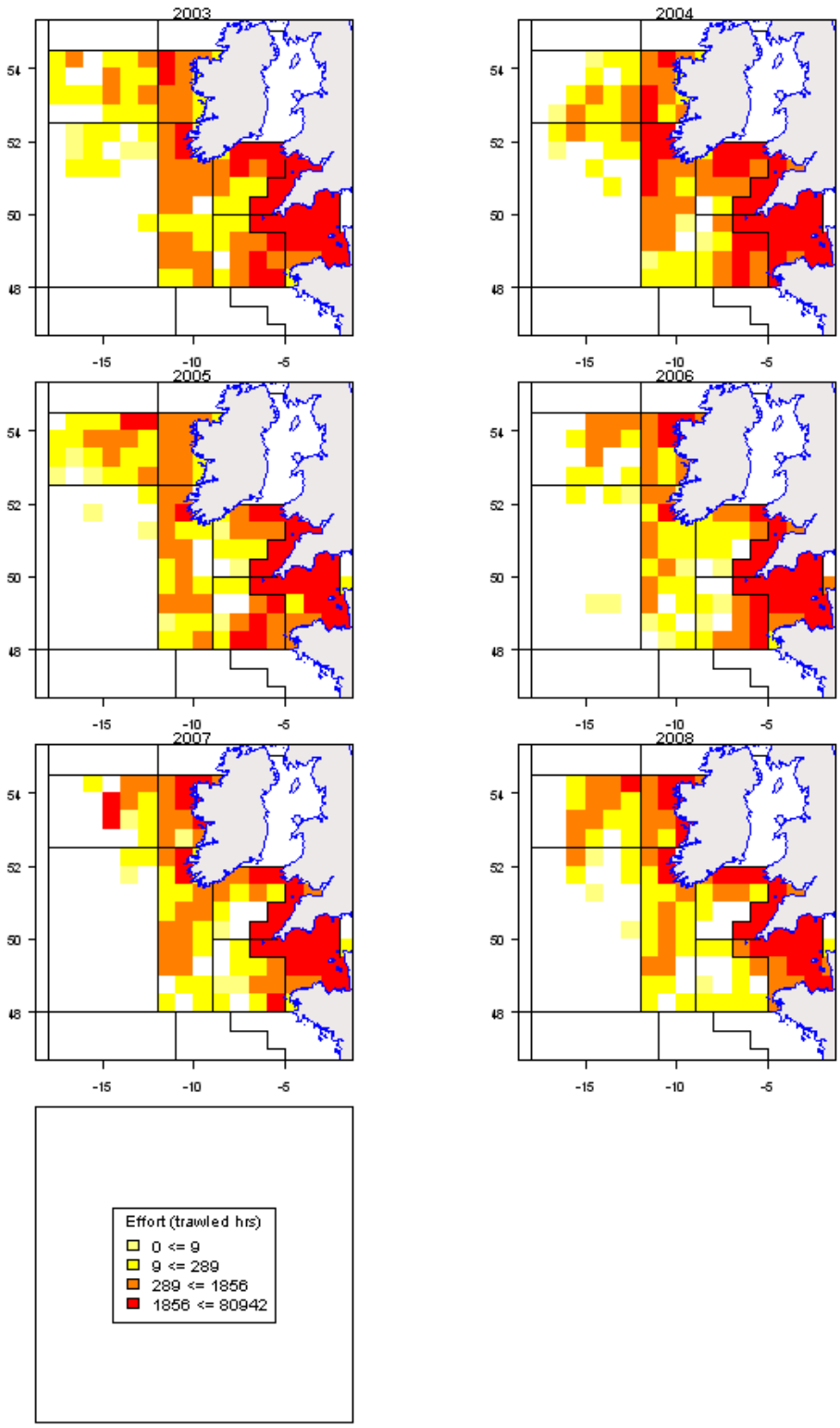


Figure 9.9.1. continued for gear ‘none’.

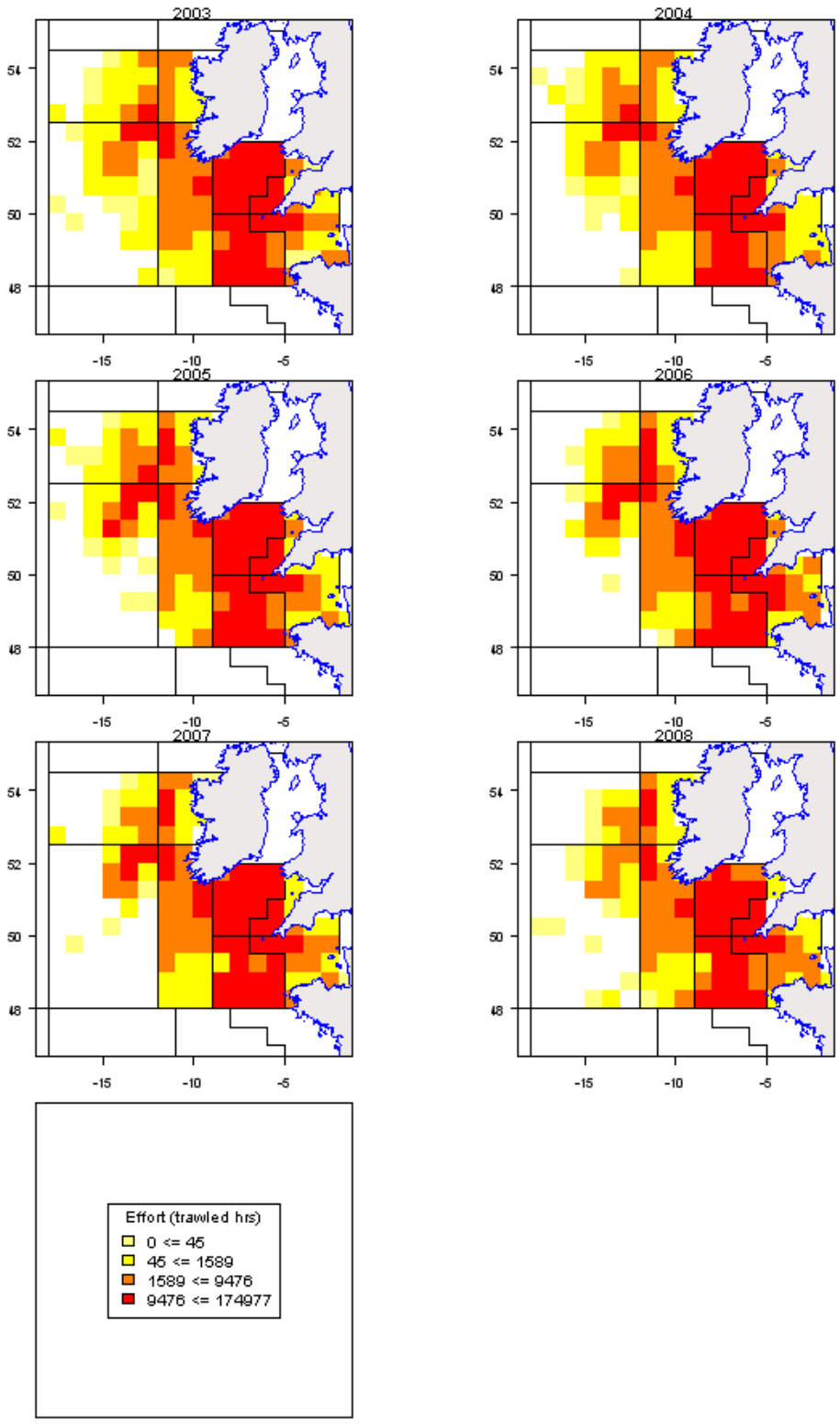


Figure 9.9.1. continued for TR1.

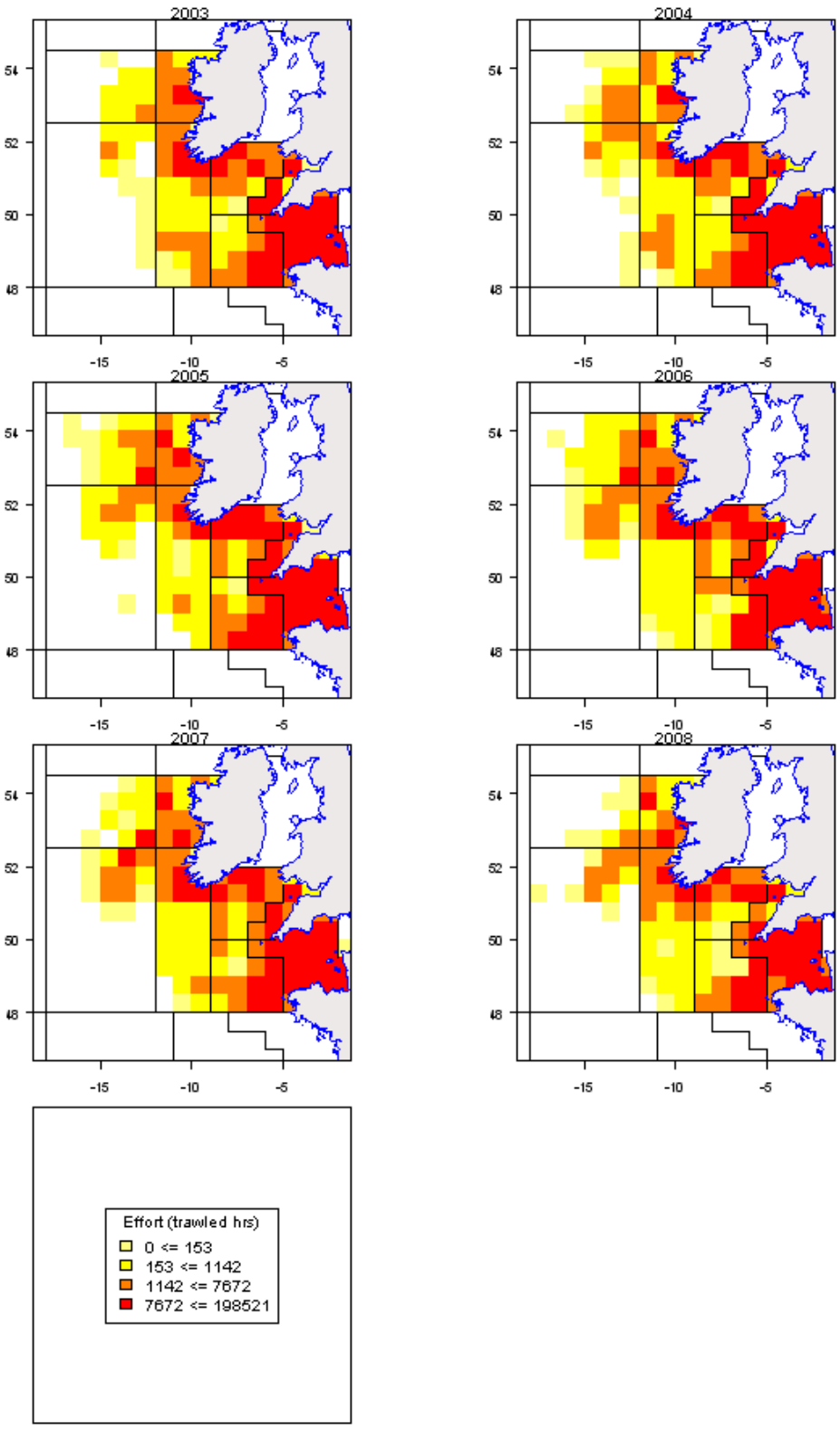


Figure 9.9.1. continued for TR2.

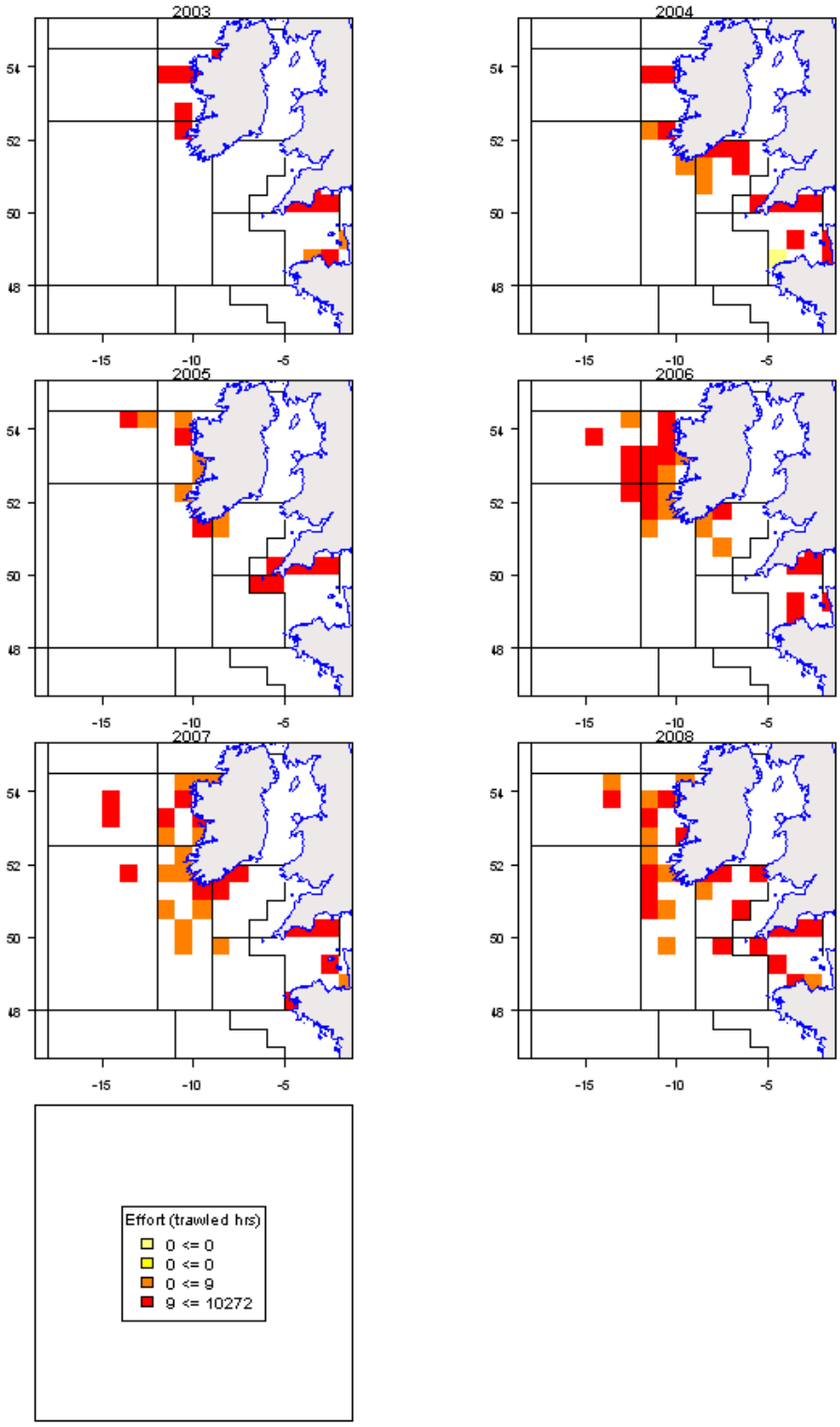


Figure 9.9.1. continued for TR3.

9.10. Conclusion

In order to manage the Celtic Sea Cod stock using a scheme involving limits on effort, the limitations should be concentrated where their impact provides maximum benefit. In the light of this, ICES Divisions VIIbc is not considered since the Celtic Sea Cod stock covers Divisions VIIe-k only.

Given the importance of the Divisions VIIfg in term of cod catches, and the somewhat higher LPUE in that area, a concentration of the regulation in that area may be beneficial. However, the group was not able to consider other relevant data such as the distributions of spawning fish or whether parts of the wider Celtic Sea are important for juveniles. Observations of these factors would help to confirm whether or not management concentrated on a subset of the overall area would provide the necessary protection for the stock as a whole. It is likely that limitation of effort specific to the VIIfg area would benefit to the cod stock, and also to other species, even though there will be some shift of effort to adjacent areas, given the differences in LPUE.

It is important to note that, as for other areas covered by Annex IIa, some mesh size categories group together several fishing activities which in fact target different species. Therefore, the correspondence between the métier and the gear/mesh-size category may be not straightforward since the impact on cod may be very different. For instance, the *Nephrops* métier in the Celtic Sea may be part of mesh-size category TR2 for Irish vessels, while for France this métier is mostly represented within mesh-size category TR1.

This analysis of the French fishery presented in last year's report (STECF, 2008) showed that limiting fishing effort for a vessel targeting the benthic species (anglerfish, megrim) may have practically no effect on the cod stock. However, this metier contributes significantly to the total fishing effort of the otter trawl in the Celtic Sea.

The definition of the 'effort groups' should take account of these métiers. This should help to maximize the impact of the regulated measures, while preventing unnecessary restrictions in métiers not contributing much to mortality of cod.

Given that the number of vessels may have increased, a first regulating measure could be to limit the access of the area.

9.11. Specific TORs "Concerning effort, CPUE/LPUE and catch data in the Celtic Sea:

TOR "Concerning effort, CPUE/LPUE and catch data linked to the Celtic Sea:

(i) Compare the fishing effort level evaluated per fishery and per gear groupings in VIIf+VIIg with the data submitted for ICES rectangle 28E2 and conclude on whether exploitation of cod shows similar characteristics;

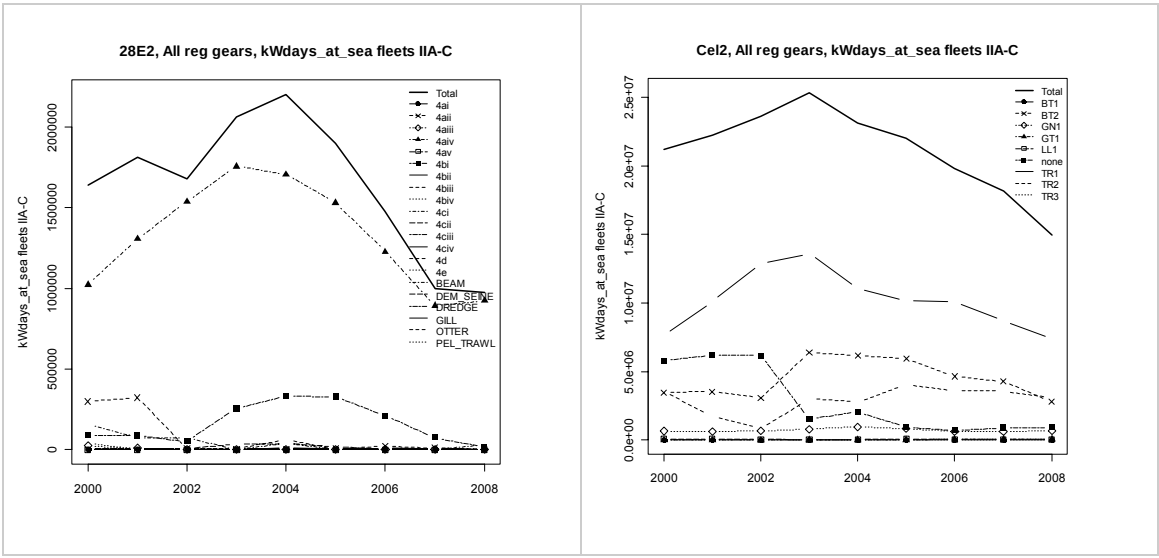
(ii) For VIIf+VIIg only, evaluate how much of the overall fishing effort per gear groupings would be framed by a management of fishing effort that relates to cod catches of 2 or 3 or 5 or 7,5 % in the catch composition per vessel and per year ?

(iii) For VIIf+VIIg only, identify the **main species** (volume and percentage) caught per gear category, and related trends in recent years. Specify when this calculation has taken account of discards as well."

(i) Data for nominal fishing effort in the area 28E2 were provided by England, Ireland, Belgium and France. To compare whether exploitation of cod shows similar characteristics in that area, catch patterns per species and gear grouping were first assessed in area VIIF+VIIg to identify gear grouping targeting cod. The Table below shows that the main gear grouping targeting cod in area VIIf+VIIg are TR1, TR2 and in a less measure BT2 and GN1.

Reg Area	7bcefghjk						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	COD		1				0
BT2	COD	299	314	426	328	315	216
GN1	COD	155	174	210	230	261	217
GT1	COD	14	11	12	11	11	14
LL1	COD	19	6	4	20	3	3
none	COD	27	68	3	1	3	2
TR1	COD	3 715	1 845	1 128	1 370	1 845	1 840
TR2	COD	925	475	675	783	795	808
TR3	COD	0	0	0	0	0	0

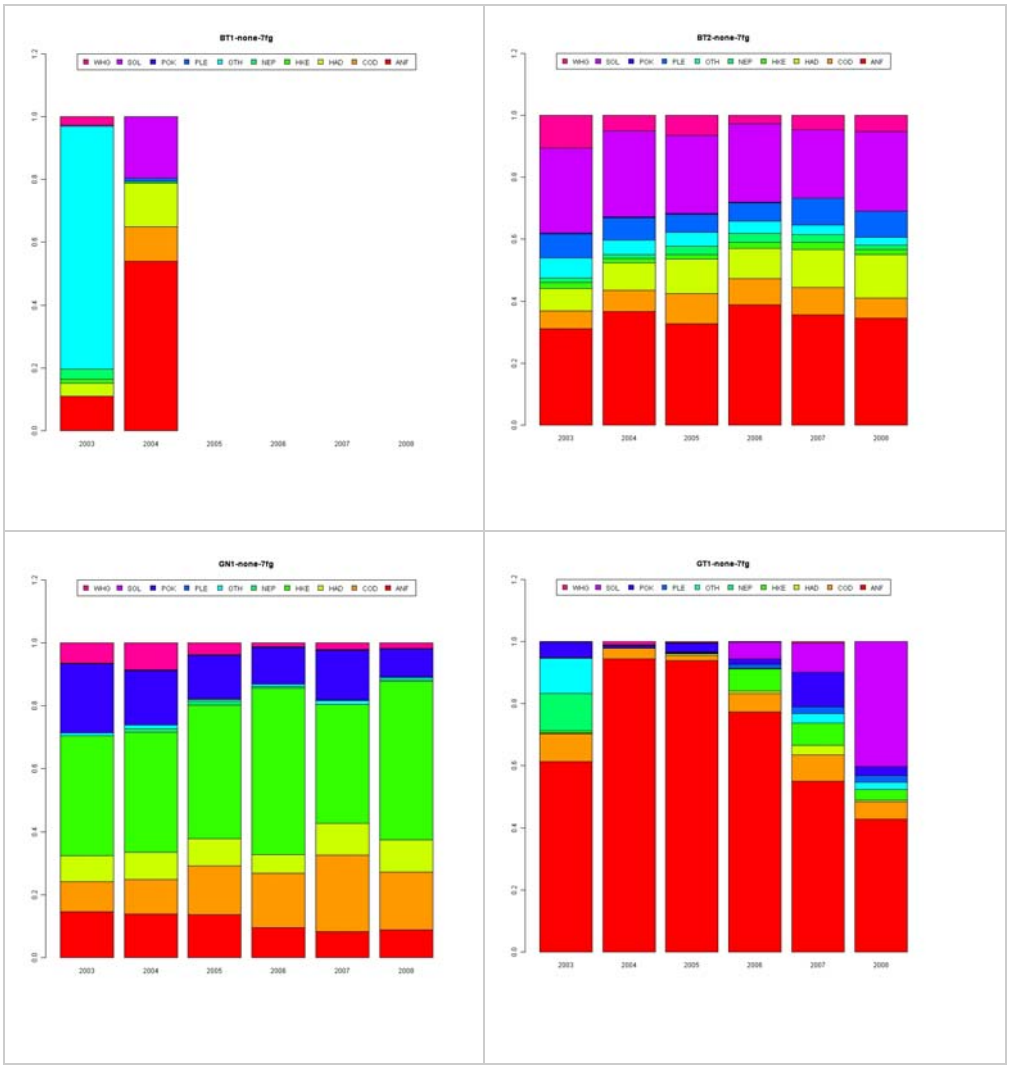
Reg area	7fg						
REG_GEAR	SPECIES	2003	2004	2005	2006	2007	2008
BT1	COD		0				
BT2	COD	220	238	327	246	216	151
GN1	COD	77	121	154	166	173	160
GT1	COD	1	0	0	3	3	4
LL1	COD	1		2	2	0	0
none	COD	23	60	2	1	1	0
TR1	COD	2 796	1 366	797	970	1 357	1 014
TR2	COD	238	198	331	390	291	304
TR3	COD		0	0	0		0



The figures above show a comparison of the effort trends in 28E2 (left panel) and VII f and g (right panel). Although the two plots show different details of gear categorisations (Annex II 40/2008 derogations on the left and new cod plan on the right), the trends are quite similar with a general decrease of the total effort in these areas. The decrease is mainly due to the decrease of the effort of the main gear category (TR1). The second most important gear category is BT2 that shows an artificial increase between 2000 and 2003 due to the desegregation of the Irish data in 2002. Following this, BT2 then decreases steadily. In terms of gear trends the two areas appear to have been exploited in similar ways.

(ii) No information at a vessel level was available to answer this question. A specific call involving individual vessel data would be required to answer this.

(iii) The main species (in volume) were identified in the report (Tables 9.3.1.1a-l). The next figures show the relative percentage (in volume, not taking into account the discards) of each species in the total catches. A group (“OTH”) merging all the “other” species not described in the report has been added to take into account the whole landings. The trends for the main gear grouping (TR1 and BT2) are quite stable. The other gear grouping appear to be more erratic but the level of effort of these gear grouping detailed are not significant compared to the main gear groupings.



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11. APPENDIX 1: PARTICIPANTS.

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12. APPENDIX 2: DATA CALL FORMATS.

EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

POLICY DEVELOPMENT AND CO-ORDINATION
COMMON FISHERIES POLICY AND AQUACULTURE

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FAX

To:	Permanent Representations of all Member States to EU	**Telephone:**	
		Fax:	
From:	Ernesto PENAS LADO	**Telephone:**	(32-2) 296 37 44
		Fax:	(32-2) 299 48 02
Number of pages:	3+16		
Subject:	**Fishing effort management schemes related to recovery and management plans in the Baltic Sea, the North Sea, to the Western waters, to the deep sea fisheries and review of fisheries located in the Celtic Sea.**		

Message:

Following a similar approach as that been implemented for the last four years, the Commission will consult the STECF / SG-MOS working group during its next meetings (04.05-08.05.2009 and 25.05-29.05.2009), on a review of fisheries regulated through fishing effort management schemes adopted in application of

- ✓ the long term plan for cod stocks [R(EC) No 1342/2008],
- ✓ the recovery plan for Southern hake and Norway lobster stocks in the Cantabrian Sea and Western Iberian peninsula [R(EC) No 2166/2005],
- ✓ the multi-annual plan for the North Sea plaice and sole stocks [R(EC) No 676/2007],
- ✓ and the multi-annual plan of Western Channel sole stock [R(EC) No 509/2007].

In addition to such plans, the Commission will also request STECF to take into account the fishing effort management schemes adopted in application of

- ✓ the multi-annual plan for the cod stocks in the Baltic Sea [R(EC) No 198/2007].

Similarly to last year, the Commission will consult the SG-MOS working group on an analysis of fisheries located in the Celtic Sea which would be affected by a possible extend of the scope of the long term plan to the fishing area where this Celtic Sea cod stock is distributed.

Commission européenne, B-1049 Bruxelles / Europese Commissie, B-1049 Brussel - Belgium. Telephone: (32-2) 299 11 11.

In addition, within the current year the Commission will have to evaluate fishing effort regimes related both to:

- ✓ R(EC) No 2347/2002 (establishing specific access requirements and associated conditions applicable to fishing for deep sea stocks) and
- ✓ R(EC) No 1954/2003 (on the management of the fishing effort relating to certain Community fishing areas and resources – so called Western Waters regime).

The Commission will also entrust the SG-MOS working group with the evaluation of such fishing effort regimes. A specific meeting is already foreseen from 04.05 to 08.05.2009 to carry out such an evaluation.

These reviews and analysis will be based on data as collected according to R(EC) No 1639/2001 and to the R(EC) No 199/2008 establishing a Community framework for the collection and management of the data needed to conduct the common fisheries policy as well as other scientific information collected at national level which would allow Member States to fulfil obligations laid down in article 10 to the Treaty establishing the European Community. They will include:

- ✓ A synopsis of the biological status of the relevant resources;
- ✓ Details of historic effort deployed by all fishing vessels, even those of less than 10 m. Loa included, in each fishery, segregated by gear type and by Member State, for the 2000-2008 time period;
- ✓ Details of historic catches (landings and discards) made by all fishing vessels , those of less than 10 m. Loa included, in each fishery, segregated by age, by gear type and by Member State, for the 2003-2008 time period.

To enable the STECF/SG-MOS Working Group both to review such fishing effort management schemes and to analyse the fishing effort deployed in the Celtic Sea fisheries, Member States are invited to provide, as soon as possible and no later than 17 April 2009, data to the Commission and to the scientists who would attend the meeting.

These data should characterise landings and discards structured by age for the period 2003-2007 and effort for the period 200-2007. The format, which has been discussed wit the STECF secretariat, is described in the annex joined to this facsimile.

Such completed data sets should be sent to the Commission and addressed to Hans Joachim Raetz and to Patrick Daniel with the reference "SG-MOS 09-03/04 Fishing Effort" followed by the name of the Member State, through the following functional e-mail boxes:

MARE-A2@ec.europa.eu

Stecf-secretariat@jrc.it

And put at disposition of the STECF/SG-MOS Working Group by the intermediary of scientists who will form part of it.

In addition, STECF highlighted several times that it had been unable to comment on the quality of the fleet specific estimates of total catches and discards, mainly due to lack of requested data quality parameters, i.e. number of discards samples, fish measured and aged.

The Commission requests Member States to provide all available information on number of discards samples, fish measured and ages which were implemented during the time-series beforehand specified and either for each metier or for each stock covered by the current call for data.

Ernesto PEÑAS LADO

Annex I.

Format adapted from the latest fleet specific fishing effort and catch data call issued by the European Commission, DG Mare.

Data reports can be provided in simple comma separated text files, Microsoft EXCEL or ACCESS formats. All missing values (empty data cells) must be indicated by a -1.

In contrast to last year's data formats, which were sequential, you are kindly requested to stick this year to a simple table format which makes im- and exporting much more easily.

A. All fishing effort management schemes – Mandatory Catch data for 2003-2008 aggregated (sum) by ID except for mean weight and length in landings and discards at age (arithmetic mean). Please ensure that data entries are fully consistent with coding given in Appendixes.

1. ID (this is a unique identifier; e.g. the combination of country, year, quarter, gear, mesh size range, fishery or metier, and area; this is free text with a maximum of 40 characters without space)
2. COUNTRY (this should be given according to the code list provided in Appendix 1)
3. YEAR (this should be given in four digits), like 2004
4. QUARTER (this should be given as one digit), like 1, 2, 3, or 4
5. GEAR (gear should be given according to the code list provided in Appendix 2, which follows the EU data regulation 1639/2001)
6. MESH_SIZE_RANGE (the mesh size range should be given according to the code list provided in Appendix 3, which largely follows the Council regulation 850/98)
7. FISHERY (species complex and gear) or métier (species complex, gear and vessel characteristics) (this is free text with a maximum of 40 characters without space; this specification may include e.g. target species, roundfish area or quarter) (a fishery can encompass, e.g. more than one mesh size range; in this case separate records have to be provided, e.g. one for each mesh size range, with the same fishery identification)
8. AREA (the ICES division or sub-area should be given according to the code list provided in Appendix 4
9. SPECON to be specified in accordance with Appendix 5, text string of maximum 10 characters
10. SPECIES (the species should be given according to the code list provided in Appendix 6, which follows the Council Regulation EC 2287/2003)
11. LANDINGS (estimated landings in tonnes should be given; if age based information is present, this quantity should correspond to the sum of products)
12. DISCARDS (estimated discards in tonnes should be given; if age based information is present, this quantity should correspond to the sum of products)
13. NO_SAMPLES_LANDINGS (the number of TRIPS should be given that relate to landings only; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
14. NO_LENGTH_MEASUREMENTS_LANDINGS (the number of length measurements should be given that relate to landings only; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
15. NO_AGE_MEASUREMENTS_LANDINGS (the number of age measurements should be given that relate to landings only; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
16. NO_SAMPLES_DISCARDS (the number of TRIPS should be given that relate to discards only; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
17. NO_LENGTH_MEASUREMENTS_DISCARDS (the number of length measurements should be given that relate to discards only; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
18. NO_AGE_MEASUREMENTS_DISCARDS (the number of age measurements should be given that relate to discards only; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
19. NO_SAMPLES_CATCH (the number of TRIPS should be given that relate to catches only; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
20. NO_LENGTH_MEASUREMENTS_CATCH (a number of length measurements should be given here if it relates to catch, i.e. landings and discards; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)

21. NO_AGE_MEASUREMENTS_CATCH (a number of age measurements should be given here if it relates to catch, i.e. landings and discards; a number should be given only if it relates to this fishery only; otherwise "–1" should be given)
22. MIN_AGE (this is the minimum age in the data section; if minimum age and maximum age are both "–1", no age based data are given; otherwise age data must follow in the data section for each age in the age range MIN_AGE to MAX_AGE; minimum age and maximum age must either both be "-1" or both be not "-1")
23. MAX_AGE (this is the true maximum age in the data section (no plus group is allowed); if minimum age and maximum age are both "–1", no age based data are given; otherwise age data must follow in the data section for each age in the age range MIN_AGE to MAX_AGE; minimum age and maximum age must either both be "-1" or both be not "-1")
24. Age 0 (years)=0
25. Age 0 No. Landed (thousands)
26. Age 0 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
27. Age 0 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
28. Age 0 No. Discard (thousands)
29. Age 0 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
30. Age 0 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
31. Age 1 (years)=1
32. Age 1 No. Landed (thousands)
33. Age 1 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
34. Age 1 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
35. Age 1 No. Discard (thousands)
36. Age 1 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
37. Age 1 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
38. Age 2 (years)=2
39. Age 2 No. Landed (thousands)
40. Age 2 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
41. Age 2 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
42. Age 2 No. Discard (thousands)
43. Age 2 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
44. Age 2 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
45. Age 3 (years)=3
46. Age 3 No. Landed (thousands)
47. Age 3 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
48. Age 3 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
49. Age 3 No. Discard (thousands)
50. Age 3 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
51. Age 3 MEAN Length Discard (cm, precision in mm=1 digits after the comma).
52. Age 4 (years)=4
53. Age 4 No. Landed (thousands)
54. Age 4 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
55. Age 4 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
56. Age 4 No. Discard (thousands)
57. Age 4 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
58. Age 4 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
59. Age 5 (years)=5
60. Age 5 No. Landed (thousands)
61. Age 5 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
62. Age 5 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
63. Age 5 No. Discard (thousands)
64. Age 5 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
65. Age 5 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
66. Age 6 (years)=6
67. Age 6 No. Landed (thousands)
68. Age 6 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
69. Age 6 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
70. Age 6 No. Discard (thousands)
71. Age 6 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
72. Age 6 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
73. Age 7 (years)=7
74. Age 7 No. Landed (thousands)
75. Age 7 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)

76. Age 7 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
77. Age 7 No. Discard (thousands)
78. Age 7 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
79. Age 7 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
80. Age 8 (years)=8
81. Age 8 No. Landed (thousands)
82. Age 8 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
83. Age 8 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
84. Age 8 No. Discard (thousands)
85. Age 8 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
86. Age 8 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
87. Age 9 (years)=9
88. Age 9 No. Landed (thousands)
89. Age 9 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
90. Age 9 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
91. Age 9 No. Discard (thousands)
92. Age 9 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
93. Age 9 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
94. Age 10 (years)=10
95. Age 10 No. Landed (thousands)
96. Age 10 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
97. Age 10 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
98. Age 10 No. Discard (thousands)
99. Age 10 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
100. Age 10 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
101. Age 11 (years)=11
102. Age 11 No. Landed (thousands)
103. Age 11 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
104. Age 11 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
105. Age 11 No. Discard (thousands)
106. Age 11 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
107. Age 11 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
108. Age 12 (years)=12
109. Age 12 No. Landed (thousands)
110. Age 12 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
111. Age 12 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
112. Age 12 No. Discard (thousands)
113. Age 12 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
114. Age 12 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
115. Age 13 (years)=13
116. Age 13 No. Landed (thousands)
117. Age 13 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
118. Age 13 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
119. Age 13 No. Discard (thousands)
120. Age 13 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
121. Age 13 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
122. Age 14 (years)=14
123. Age 14 No. Landed (thousands)
124. Age 14 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
125. Age 14 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
126. Age 14 No. Discard (thousands)
127. Age 14 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
128. Age 14 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
129. Age 15 (years)=15
130. Age 15 No. Landed (thousands)
131. Age 15 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
132. Age 15 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
133. Age 15 No. Discard (thousands)
134. Age 15 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
135. Age 15 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
136. Age 16 (years)=16
137. Age 16 No. Landed (thousands)
138. Age 16 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)

139. Age 16 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
140. Age 16 No. Discard (thousands)
141. Age 16 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
142. Age 16 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
143. Age 17 (years)=17
144. Age 17 No. Landed (thousands)
145. Age 17 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
146. Age 17 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
147. Age 17 No. Discard (thousands)
148. Age 17 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
149. Age 17 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
150. Age 18 (years)=18
151. Age 18 No. Landed (thousands)
152. Age 18 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
153. Age 18 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
154. Age 18 No. Discard (thousands)
155. Age 18 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
156. Age 18 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
157. Age 19 (years)=19
158. Age 19 No. Landed (thousands)
159. Age 19 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
160. Age 19 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
161. Age 19 No. Discard (thousands)
162. Age 19 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
163. Age 19 MEAN Length Discard (cm, precision in mm=1 digits after the comma)
164. Age 20 (years)=20
165. Age 20 No. Landed (thousands)
166. Age 20 MEAN Weight Landed (kg, precision in gram=3 digits after the comma)
167. Age 20 MEAN Length Landed (cm, precision in mm=1 digits after the comma)
168. Age 20 No. Discard (thousands)
169. Age 20 MEAN Weight Discard (kg, precision in gram=3 digits after the comma)
170. Age 20 MEAN Length Discard (cm, precision in mm=1 digits after the comma)

B. All fishing effort management schemes – Mandatory effort data for 2000-2008, aggregated (sum) by ID

1. ID (this is a unique identifier; e.g. the combination of country, year, quarter, gear, mesh size range, fishery or metier, and area; this is free text with a maximum of 40 characters without space)
2. COUNTRY (this should be given according to the code list provided in Appendix 1)
3. YEAR (this should be given in four digits)
4. QUARTER (this should be given as one digit)
5. VESSEL_LENGTH_CATEGORY (L < 10 m Loa ; 10 m Loa ≤ L < 15 m Loa ; 15 m Loa ≤ L)
6. GEAR (this identifies gear, and should be given according to the code list provided in Appendix 2, which follows largely the EU data regulation 1639/2001)
7. MESH_SIZE_RANGE (the mesh size range should be given according to the code list provided in Appendix 3, which follows largely the Council regulation 850/98)
8. FISHERY (species complex and gear) or métier (species complex, gear and vessel characteristics) (this is free text with a maximum of 40 characters without space; this specification may include e.g. target species, roundfish area or quarter)
9. AREA (the ICES division or sub-area should be given according to the code list provided in Appendix 4)
10. SPECON to be specified in accordance with Appendix 5, text string of maximum 10 characters
11. NOMINAL_EFFORT (effort should be given in kW.days, i.e. engine power in kW times days at sea; if nominal effort is not available, "-1" should be given)
12. EFFECTIVE_EFFORT (optionally, gear specific effort can be given in other units, to be specified in the next field, than the nominal effort; if effective effort is not available "-1" should be given)
13. EFFORT_UNIT (this field should state the unit of effort used for the optional effective effort in the field above; this is free text with a maximum of 40 characters without space; if no effective effort is given, "-1" should be given)
14. GT_DAYS_AT_SEA (effort should be given in gross tonnage * days at sea; if the number is not available, "-1" should be given).
15. NO_VESSELS (simple integer value of vessels, if the number is not available, "-1" should be given.

C. Fishing effort management schemes linked to Annex IIA, B and IIC, to Western waters and to deep sea regulations – Specific effort data by rectangle for 2003-2008 in units of fishing hours

1. ID (this is a unique identifier; e.g. the combination of country, year, quarter, gear, mesh size range, fishery or metier, and area; this is free text with a maximum of 40 characters without space)
2. COUNTRY (this should be given according to the code list provided in Appendix 1)
3. YEAR (this should be given in four digits)
4. QUARTER (this should be given as one digit)
5. VESSEL_LENGTH_CATEGORY (L < 10 m Loa ; 10 m Loa ≤ L < 15 m Loa ; 15 m Loa ≤ L)
6. GEAR (this identifies gear, and should be given according to the code list provided in Appendix 2, which follows largely the EU data regulation 1639/2001).
7. MESH_SIZE_RANGE (the mesh size range should be given according to the code list provided in Appendix 3, which follows largely the Council regulation 850/98)
8. FISHERY (species complex and gear) or métier (species complex, gear and vessel characteristics) (this is free text with a maximum of 40 characters without space; this specification may include e.g. target species, roundfish area or quarter)
9. AREA (the ICES division or sub-area should be given according to the code list provided in Appendix 4). (For the Western Waters Regulation; please consider ICES and CECAF areas: V, VI, VII, VIII, IX and X and CECAF divisions 34.1.1, 34.1.2 and 34.2.0. For the Deep sea regulation, please consider ICES I-XIV and CECAF 34.1.1, 34.1.2, 34.1.3 and 34.2. For the Annex IIA, IIB and IIC, please consider only ICES Divisions 2-10)
10. SPECON to be specified in accordance with Appendix 5, text string of maximum 10 characters
11. RECTANGLE (text, 4 letters like 44F6)
12. EFFECTIVE_EFFORT (hours fished, simple long numerical integer)

Appendix 1

Country coding

COUNTRY	CODE
Belgium	BEL
Denmark	DEN
Estonia	EST
Finland	FIN
France	FRA
Germany	GER
Ireland	IRL
Latvia	LAT
Lithuania	LIT
Netherlands	NED
Norway	NOR
Poland	POL
Portugal (mainland)	POR
Portugal (Azores)	PTA
Portugal (Madeira)	PTM
Spain (mainland)	SPN
Spain (Canaries islands)	SPC
Sweden	SWE
United Kingdom (Jersey)	GBJ
United Kingdom (Guernsey)	GBG
United Kingdom (Alderny/Sark/Herm)	GBC
United Kingdom (England and Wales)	ENG
United Kingdom (Isle of Man)	IOM
United Kingdom (Northern Ireland)	NIR
United Kingdom (Scotland)	SCO
Other countries	OTH

Appendix 2

Gear coding

TYPES OF FISHING TECHNIQUES			Gear code
Mobile gears	Beam trawls		BEAM
	Bottom trawls & demersal seines	Bottom otter trawls, Multi-rig otter trawls or Bottom pair trawls	OTTER
		Fly shooting seines, Anchored seines or Pair seines	DEM_SEINE
	Pelagic trawls & pelagic Seines	Midwater otter trawls or Midwater pair trawls	PEL_TRAWL
		Purse seines, Fly shooting seines or Anchored seines	PEL_SEINE
	Dredges		DREDGE
Passive gears	Drifting longlines or Set longlines		LONGLINE
	Driftnets or Set gillnets (*except Trammel Nets*)		GILL
	Trammel Nets		TRAMMEL
	Pots & traps		POTS

Appendix 3

Mesh size coding

Gear type	Mesh size range
Mobile gears	<16
	16-31
	32-54
	55-69
	70-79
	80-89
	90-99
	100-119
	>=105[1]
	>=120
Passive gears	10-30
	31-49
	50-59
	60-69
	70-79
	80-89
	90-99
	100-109
	110-149
	110-156[2]
	150-219
	>=220

[1] To be used for mobile gears in the context the fishing effort management scheme applied in the Baltic Sea

[2] To be used for passive gears in the context the fishing effort management scheme applied in the Baltic Sea

Appendix 4

Area coding by WG, ICES statistical areas and IBSFC areas for Baltic

Baltic Sea

22-24

25-28[3]

27

28.2

29-32

North Sea, Skagerrak, Kattegat and Eastern Channel

2 EU

3an

3as

4

7d

Northern Shelf

1 COAST[4]

1 RFMO[5]

2 COAST

2 RFMO

5a

5b EU[6]

5b COAST

5b RFMO

6a

6b EU

6b RFMO

7a[7]

12 RFMO

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[3] Areas 27 and 28.2 included.

[4] COAST will refer to waters under jurisdiction of a non-EU coastal state.

[5] RFMO will refer to waters where fisheries are managed through RFMOs.

[6] 5b EU will have to be considered as covering the following ICES statistical rectangles: 49D6, 49D7, 49D8, 49D9, 49E0, 49E1, 49E2, 49E3, 49E4, 50E5.

[7] ICES statistical rectangles of ICES division VIIa and corresponding to the BSA shall be included.

14a

14b COAST

14b RFMO

Southern Shelf

BSA[8]

7b[9]

7c EU

7c RFMO

7e

7f

7g[10]

7h[11]

28E2

7j EU[12]

7j RFMO

7k EU

7k RFMO

8a

8b

8c

8d EU

8d RFMO

8e EU

8e RFMO

9a

9b EU

9b RFMO

10 EU

---

[8] BSA (Biological Sensitive Area) will have to be considered as covering the following ICES statistical rectangles: 35D8, 35D9, 35E0, 34D8, 34D9, 34E0, 33D8, 33D9, 33E0, 33E2, 32D8, 32D9, 32E0, 32E1, 32E2, 31D8, 31D9, 31E0, 31E1, 31E2, 30D9, 30E0, 30E1, 30E2, 29D9, 29E0, 29E1, 29E2, 28D9, 28E0, 28E1, 28E2, 27D9, 27E0, 27E1, 27D2, 26D9, 26E0, 26E1, 26E2

[9] ICES statistical rectangles of ICES division VIIb and corresponding to the BSA shall be included.

[10] ICES statistical rectangles of ICES division VIIg and corresponding to the BSA shall be included.

[11] ICES statistical rectangles of ICES division VIIh and corresponding to the BSA shall be included.

[12] ICES statistical rectangles of ICES division VIIj and corresponding to the BSA shall be included.

10 RFMO

CECAF

34.1.1 EU

34.1.1 COAST

34.1.2 EU

34.1.2 COAST

34.1.2 RFMO

34.1.3 COAST

34.1.3 RFMO

34.2.0 EU

34.2.0 COAST

34.2.0 RFMO

Appendix 5

Coding of special conditions for the derogations listed in Council Regulation 40/2008, Annexes IIA, IIB and IIC

Annex IIA:

IIA83a

IIA83b

IIA83c

IIA83d

IIA83e

IIA83f

IIA83g

IIA83h

IIA83i

IIA83j

IIA83k

IIA83l

IIA83hj

Annex IIB:

IIB72ab

Annex IIC:

No special conditions

BALTIC Technical Conditions

Bacoma

T90

Appendix 6

Species coding according to Council Regulation (EC) No. 2298/2003

Common name	Alpha-3 code	Scientific name
1. Albacore	ALB	*Thunnus alalunga*
2. Alfonsinos	ALF	*Beryx spp.*
3. American plaice	PLA	*Hippoglossoides platessoides*
4. Anchovy	ANE	*Engraulis encrasicolus*
5. Anglerfish	ANF	*Lophiidae*
6. Antarctic icefish	ANI	*Champsocephalus gunnari*
7. Arctic skate	RJG	*Raja hyperborea*
8. Atlantic catfish	CAT	*Anarhichas lupus*
9. Atlantic halibut	HAL	*Hippoglossus hippoglossus*
10. Atlantic salmon	SAL	*Salmo salar*
11. Atlantic thornyhead	TJX	*Trachyscorpia cristulata*
12. Baird's slickhead	ALC	*Alepocephalus bairdii*
13. Basking shark	BSK	*Cetorhinus maximus*
14. Bigeye tuna	BET	*Thunnus obesus*
15. Birdbeak dogfish	DCA	*Deania calcea*
16. Blackbelly rosefish	BRF	*Helicolenus dactylopterus*
17. Black cardinal fish	EPI	*Epigonus telescopus*
18. Black dogfish	CFB	*Centroscyllium fabricii*
19. Black scabbardfish	BSF	*Aphanopus carbo*
20. Blackfin icefish	SSI	*Chaenocephalus aceratus*
21. Blackmouth catshark	SHO	*Galeus melastomus*
22. Blue antimora	ANT	*Antimora rostrata*
23. Blue ling	BLI	*Molva dypterigia*
24. Blue marlin	BUM	*Makaira nigricans*
25. Blue whiting	WHB	*Micromesistius poutassou*
26. Bluefin tuna	BFT	*Thunnus thynnus*
27. Blutnose sixgill shark	SBL	*Hexanchus griseus*
28. Capelin	CAP	*Mallotus villosus*
29. Cod	COD	*Gadus morhua*
30. Common mora	RIB	*Mora moro*
31. Common sole	SOL	*Solea solea*

32. Common shrimp	CSH	*Crangon crangon*
33. Crab	PAI	*Paralomis spp.*
34. Dab	DAB	*Limanda limanda*
35. Deep-sea red crab	KEF	*Chaceon affinis*
36. Edible Crab	CRE	*Cancer pagurus*
37. Eelpouts	ELZ	*Lycodes spp.*
38. European conger	COE	*Conger conger*
39. European pearch	FPE	*Perca fluviatilis*
40. Flatfish, flounder	FLX	*Pleuronectiformes, Platichthys flesus*
41. Forkbeards	FOX	*Phycis spp.*
42. Frilled shark	HXC	*Chlamydoselachus anguineus*
43. Greater silver smelt	ARU	*Argentina silus*
44. Greenland halibut	GHL	*Reinhardtius hippoglossoides*
45. Grenadier	GRV	*Macrourus spp.*
46. Great Atlantic Scallop	SCE	*Pecten maximus*
47. Great lantern shark	ETR	*Etmopterus princeps*
48. Greenland shark	GSK	*Somniosus microcephalus*
49. Grey rockcod	NOS	*Lepidonotothen squamifrons*
50. Gulper shark	GUP	*Centrophorus granulosus*
51. Haddock	HAD	*Melanogrammus aeglefinus*
52. Hake	HKE	*Merluccius merluccius*
53. Herring	HER	*Clupea harengus*
54. Horse mackerel	JAX	*Trachurus spp.*
55. Humped rockcod	NOG	*Gobionotothen gibberifrons*
56. Iceland catshark	APQ	*Apristurus laurussonii*
57. Kitefin shark	SCK	*Dalatias licha*
58. Knifetooth dogfish	SYR	*Scymnodon rigens*
59. Krill	KRI	*Euphausia superba*
60. Lantern fish	LAC	*Lampanyctus achirus*
61. Large-eyed rabbitfish	CYH	*Hydrolagus mirabilis*
62. Leafscale gulper shark	GUQ	*Centrophorus squamosus*
63. Lemon sole	LEM	*Microstomus kitt*
64. Ling	LIN	*Molva molva*
65. Lumpsucker	LUM	*Cyclopterus lumpus*
66. Longnose velvet dogfish	CYP	*Centroscymnus crepidater*
67. Mackerel	MAC	*Scomber scombrus*

68. Marbled rockcod	NOR	*Notothenia rossii*
69. Mediterranean slimehead	HPR	*Hoplostethus mediterraneus*
70. Megrims	LEZ	*Lepidorhombus spp.*
71. Mouse catshark	GAM	*Galeus murinus*
72. Northern prawn	PRA	*Pandalus borealis*
73. Norway lobster	NEP	*Nephrops norvegicus*
74. Norway pout	NOP	*Trisopterus esmarki*
75. Norway redfish	SFV	*Sebastes viviparus*
76. Norwegian skate	JAD	*Raja nidarosiensis*
77. Orange roughy	ORY	*Hoplostethus atlanticus*
78. 'Penaeus' shrimps	PEN	*Penaeus spp*
79. Pike	FPI	*Esox lucius*
80. Pike pearch	FPP	*Sander lucioperca*
81. Plaice	PLE	*Pleuronectes platessa*
82. Polar cod	POC	*Boreogadus saida*
83. Pollack	POL	*Pollachius pollachius*
84. Porbeagle	POR	*Lamna nasus*
85. Portuguese dogfish	CYO	*Centroscymnus coelolepis*
86. Rabit fish	CMIO	*Chimaera monstrosa*
87. Rays	RAJ	*Rajidae*
88. Redfish	RED	*Sebastes spp.*
89. Red Seabream	SBR	*Pagellus bogaraveo*
90. Risso's smooth-head	PHO	*Alepocephalus rostratus*
91. Roughead grenadier	RHG	*Macrourus berglax*
92. Roundnose grenadier	RNG	*Coryphaenoides rupestris*
93. Round ray	RJY	*Raja fyllae*
94. Sailfin roughshark	OXN	*Oxynotus paradoxus*
95. Saithe	POK	*Pollachius virens*
96. Sandeel	SAN	*Ammodytidae*
97. Scallop	KMV	*Chlamys livida*
98. Seabass	BSS	*Dicentrarchus labrax*
99. Short fin squid	SQI	*Illex illecebrosus*
100. Silver scabbardfish	SFS	*Lepidopus caudatus*
101. Skates	SRX	*Rajidae*
102. Smooth lantern shark	ETP	*Etmopterus pusillus*
103. Snow crab	PCR	*Chionoecetes spp.*

104. South Georgian icefish	SGI	*Pseudochaenichthys georgianus*
105. Spanish ling	SLI	*Molva macrophthalmus*
106. Spinous spider crab	SCR	*Maja squinado*
107. Sprat	SPR	*Sprattus sprattus*
108. Spurdog	DGS	*Squalus acanthias*
109. Straightnose rabbitfish	RCT	*Rhinochimaera atlantica*
110. Swordfish	SWO	*Xiphias gladius*
111. Toothfish	TOP	*Dissostichus eleginoides*
112. Tope shark	GAG	*Galeorhinus galeus*
113. Turbot	TUR	*Psetta maxima*
114. Tusk	USK	*Brosme brosme*
115. Unicorn icefish	LIC	*Channichthys rhinoceratus*
116. Velvet belly	ETX	*Etmopterus spinax*
117. White marlin	WHM	*Tetrapturus alba*
118. Whiting	WHG	*Merlangius merlangus*
119. Witch flounder	WIT	*Glyptocephalus cynoglossus*
120. Wreckfish	WRF	*Polyprion americanus*
121. Yellowfin tuna	YFT	*Thunnus albacares*
122. Yellowtail flounder	YEL	*Limanda ferruginea*

EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

POLICY DEVELOPMENT AND CO-ORDINATION
COMMON FISHERIES POLICY AND AQUACULTURE

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D(2009)

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Number of pages:	2		

Subject: **CORRIGENDUM**

Fishing effort management schemes related to recovery and management plans in the Baltic Sea, the North Sea, to the Western waters, to the deep sea fisheries and review of fisheries located in the Celtic Sea.

Message:

On last Monday 16.03.2009, with the reference D(2009)02783, the DG Mare sent to all Member States permanent representations a call for data to be taken into account by the STECF during its next working group meetings on fishing effort management schemes.

Unfortunately, a mistake has slipped into the submitted version regarding time series to be build for catches data and fishing effort data.

Nevertheless, according to the document attached to this call (Annexe 1 and its appendices), periods of time to be taken into account should be the following

- 2003-2008 for landings and discards described in part A of the Annex 1
- 2000-2008 for fishing effort described in part B of the Annex 1 (except for data aggregated by ICES statistical rectangles - part C of the Annex 1 specifies the 2003-2008 time period)

And the wrong sentence included in the submitted version should have been written as below:

> **These data should characterise landings and discards structured by age for the period 2003-2008 and effort for the period 2000-2008. The format, which has been discussed wit the STECF secretariat, is described in the annex joined to this facsimile.**

In addition, the note 8 of Appendix 4, which specifies ICES statistical rectangles covering the Biological Sensitive Area, also so called "Irish Box" in the context of the Western Waters regime, contains some mistakes as well and should be designed as below :

> [8] BSA (Biological Sensitive Area) will have to be considered as covering the following ICES statistical rectangles: 35D8, 35D9, 35E0, 35E1, 34D8, 34D9, 34E0, 34E1, 33D8, 33D9, 33E0, 33E2, 32D8, 32D9, 32E0, 32E1, 32E2, 31D8, 31D9, 31E0, 31E1, 31E2, 30D9, 30E0, 30E1, 30E2, 29D9, 29E0, 29E1, 29E2, 28D9, 28E0, 28E1, 28E2.

I furthermore take advantage of this corrigendum to inform you that, according to the format designed in Annex 1 of the data call, the code "DEEP" could be used to fill the field "FISHERY" when fishing effort data and/or catch data would have to be related to deep-sea fisheries regulated through R(EC) No 2347/2002).

I thank you for your vigilance which helped correct these instructions and I hope it will answer your questions and clarify the situation.

Ernesto PENAS LADO

13. APPENDIX 3: DETAILED DESCRIPTION OF ENGLAND WALES DATA

Notes on compilation of data submission for ENG on landings and effort for SGMOS 09-04

General notes on coverage of activity:

The data supplied under databases titled "ENG" include data related to the fleets of England, Wales and Northern Ireland with a full coverage of activity in terms of covering all landings by such vessels into the mainland UK as well as landings abroad into other Member States and into Third Countries. Details are also included for the Isle of Man and Channel Islands (Guernsey, Jersey) where available, which tends to be instances where such vessels have made landings into mainland UK, and as such the information is an incomplete coverage of the situation.

In the compilation of data the data call has been followed, taking in decision made during the group on the treatment of issues as they arose.

Data related to over 10m vessels:

The key source of information that feed into the compilation of data are the information on activity and landings reported on the EU logbook, landing declarations and sales notes received by administrations covering all activity by such UK registered vessels. These provide the source of landings and activity data used in the compilation of the data.

In the compilation of data an individual record is created for each unique instance of fishing activity during the trips:

- Day of activity
- Gear used
- Mesh size used
- ICES rectangle of activity (bringing with it the associated ICES Region and Division information – for areas not covered by ICES rectangles the appropriate more aggregated unit of area is also used).

As such if a vessel fishes with either a different gear, mesh size or in a different ICES rectangle in a given day, then a separate record is created. This reflects the requirements for the completion of an EU logbook, where such changes in activity require the completion of a separate line on the logbook.

The overall length of time at sea is calculated from trip information in terms of whole calendar days at sea using the formula:

Days absent at sea on trip = [date return] – [date departure] + 1

This calculation is done at the level of each trip to produce an estimate for the time at sea in whole days. However, this calculation can allow double counting of individual days – for example if a vessel lands on one day then sets out on another trip that same day, it effectively would be counted as a day of activity in both trips. As such an adjustment is

made for such potential double counting of activity to remove 0.5 of a day from each trip when such cases are seen, giving an adjusted total length of time for the trip.

This overall length of time at sea for the trip is then allocated pro-rata across each day of actual fishing activity reported by the vessel during the trip. If more than one instance of activity is reported for each day (for example, use of multiple gears or mesh sizes in one day, or fishing in a different ICES rectangle) then that day's activity is split pro-rata across each instance of activity during the day.

Thus the overall length of a trip is split across each instance of activity – the effectively means that non-fishing (steaming) time is allocated across all the areas of activity seen during the trip.

With regards to the landings data, the overall accurate landed weight of fish is derived from landings declarations and sales notes reported for the trip. These accurate weights are then converted to live weight equivalents for each species and then allocated across the matrix of species and instances of activity as reported by the operator in the EU logbook. This allows each instance of activity in a day to be allocated its appropriate share of the total quantities of fish landed during the trip.

Data on activity and ladings for each vessel are then linked to the vessel information from the UK register of fishing vessels to incorporate details of gross tonnage and engine power of the vessels at the time of the trips, allowing the production of effort data:

For Database B – effort data for 2000-2008:

- Nominal Effort in KW days = days at sea x engine power
- GT Days at sea = days at sea x gross tonnage

For Database C – Effort data for 2003-2008 at rectangle level:

- Effective effort = days at sea x 24 to give hours

Data related to vessels 10m and under:

For vessels 10m and less overall length, a similar process is followed but this is complicated in that there is no statutory reporting of fishing activity as the use of the EU logbook is not mandatory for these vessels. Information has historically been obtained from interviews, sales notes and landings declarations and from local knowledge by district fisheries offices around the UK. In the case of shellfish vessels, data is obtained from the mandatory licensing scheme for all vessels, which includes a requirement to complete and submit a summary record of daily activity each month. Together, these sources of information allowed the production of estimates of catch and effort data –sometimes at the level of individual vessels, but more often are as aggregate estimates for groups of vessels working in local areas.

From 1st September 2005 UK Fisheries administrations introduced the requirement for buyers and sellers of fish at first point of sale to be registered. This had a significant advantageous impact on the amount of data being received on the activity of individual vessels of all sizes but particularly those of 10m overall length and under. This information is now being captured at the level of individual vessels and individual trips for each vessel through the use of sales notes data on quantities and values of fish landed. When this information on landings is entered onto UK systems, estimates of the associated fishing

effort are also entered based on the knowledge staff in local fisheries offices have of the individual vessels involved. During 2006 quality assurance measures took place before a fully switch over to using this more detailed source of data from July 2006 onwards.

The result of this is that for years earlier than 2006, whilst the information on landings provided includes the full level of landings reported, it does not include details of the vessels involved, and as such while estimates of the gears/mesh sizes involved in the activity are included, they are only estimates given that whilst it is possible to observe the quantity of landed fish, it is difficult to properly estimate the number of vessels involved as well as the number of trips that such landings represent. As such it is only for more recent years where the new source of information on activity of individual vessels involved is available from the obligations for the reporting of sales notes that more accurate information on the level of effort by 10m and under vessels at the level of individual vessels has been available.

As such the reported effort data for these small vessels has been constrained to only include the activity reported against individually identified vessels. The data on landings includes all information, including the data reported under grouped data entries in years before and for part of 2006. As such care thus needs to be taken when comparing the level of effort and the level of landings for this group of vessels.

Compilation of information for special conditions

Following discussions with the Commission and the JRC as part of identifying the need for corrections in the baseline effort levels established for the UK for the cod recovery regime for 2009, the methodology for allocating activity to the various special conditions has been revised:

- It is constrained to only lodge special conditions for activity within the area defined by the cod recovery regime.
- A consistent approach has been taken across the UK in the calculation of activity that allocates it to the arioso special conditions.
- A cross-check has been introduced in the compilation stage that ensures that special conditions can only be listed against the activity with the specific gears involved.
- Amendments were made following decisions taken at the group on how these conditions should be interpreted – for example, the interpretation of Special Condition IIA83(i) (formerly IIA81(i)) related to beam trawl activity.
- For instances where a vessels activity would make it eligible for more than one of the special conditions, its effort has been allocated to the one that would have been most beneficial to it in terms of increased days at sea allowed under het cod recovery regime.
- As such the allocation of effort to the special conditions has been improved to follow the consensus of the group and so to improve the consistency of the data.

Effort in the Biologically Sensitive Area

Effort in the Biologically Sensitive Area defined by the Western waters effort regime was taken as any effort in the rectangles listed in the corrected data call – as such the full effort details for those rectangles that are only partly within the area are included under the heading, leading to a possible overstatement of the effort involved in the area itself.

Deep sea species effort

Deep Sea Species activity was defined using the decision tree agreed during the meeting, where activity is to counted as Deep Sea Species related activity using the following hierarchy:

1. A Deep Sea Species specific gear was used (Not applicable for the UK data due to the mixed nature of the UK fisheries)

2. More than 100kg of the deep sea species as listed in Annex 1 of Council Regulation (EC) 2347/2002 were landed during the trip –

3. For other trips – the deep sea species listed in Annex 1 of Regulation 2347/2002 made up more than 35% of the total quantity of all species landed from the trip.

In instances where rules 2 and 3 resulted in the trip being regarded as Deep Sea Species related, this led to all the individual instances of activity reported during the trip being classified as deep sea species related.

Differences from last year's submission

Work has been carried out to improve the linkage of activity to special conditions in light of contact with the Commission and the JRC to deal with inconsistencies and differences in interpretation of the special conditions, for example, instances where the special condition had been interpreted differently by the UK as well as instances where errors in the allocation of effort to the special conditions had occurred. In addition, the various quality initiatives introduced by the JRC in the central processing of the date reported to improve the quality of the data have been worked back to be included in the initial processing stages in the UK – for example, instances of data oddities (e.g. mesh sizes being reported for gears where meshes are not applicable such as long lines) are now detected and treated as appropriate in the compilation of data prior to submission.

Also as and when decisions were made during the meeting of the group on how to treat particular instances and issues in the compilation and reporting of data, changes were made to the compilation process.

In addition to the above, within the UK there have been changes to the core data source used to switch from a dedicated reference databases compiled from an aggregation of data from separate databases on activity held by the different fisheries administrations in the UK to using the IFISH UK database introduced as part of continuing development of combined data systems within the UK. This move has led to some slight changes in the data, primarily as a result of a change in the linkage to the vessel details for engine power and gross tonnage. These changes have been separately assessed and are of a minor overall impact.

14. APPENDIX 4: FRENCH RAW DATA FROM DRC PROGRAM : COD LANDINGS AND DISCARDS

Table 1 : French raw data from DRC Program : Cod landings and discards

Year	Ices division	Data type	Benthic bottom trawl	Crustacean bottom trawl	Demersal bottom trawl	Deep sea bottom trawl	Pots	Beam trawl	Nets	Anchovy pelagic trawl	Miscellaneous fishes pélagic trawl	Pilchard pelagic trawl	Albacore pelagic trawl
2003	IVa	Haul Number or pieces of net			14								
		Mean Cod landings by haul			0								
		Mean Cod discards by haul			0								
	IVc	Haul Number or pieces of net			24			3	33				
		Mean Cod landings by haul			11.5358			1.283	5.438				
		Mean Cod discards by haul			0.0548			0	0.318				
	VIa	Haul Number or pieces of net			3								
		Mean Cod landings by haul			0								
		Mean Cod discards by haul			0								
	VIId	Haul Number or pieces of net	28		128			23	68		1		
		Mean Cod landings by haul	0		11.8548			1.029	2.839		4.467999935		
		Mean Cod discards by haul	0		0			0	0.03		0		
	VIIe	Haul Number or pieces of net			37								
		Mean Cod landings by haul			8.09459								
		Mean Cod discards by haul			0								
	VIIh	Haul Number or pieces of net							17				
		Mean Cod landings by haul							0.455				
		Mean Cod discards by haul							0				
	VIIIa	Haul Number or pieces of net	30	143	39				61				
		Mean Cod landings by haul	0	0	0				0				
		Mean Cod discards by haul	0	0	0				1.124				
	VIIIb	Haul Number or pieces of net	31	17	23				28				
		Mean Cod landings by haul	0	0	0				0				
		Mean Cod discards by haul	0	0	0				0				
2004	IIa	Haul Number or pieces of net			1	6							
		Mean Cod landings by haul			0	0							
		Mean Cod discards by haul			1	0							
	IVa	Haul Number or pieces of net			44								
		Mean Cod landings by haul			0								
		Mean Cod discards by haul			1.95795								
	IVb	Haul Number or pieces of net			1								
		Mean Cod landings by haul			0								
		Mean Cod discards by haul			0								
	IVc	Haul Number or pieces of net			57				6				
		Mean Cod landings by haul			35.7513				2.145				
		Mean Cod discards by haul			3.42025				0				
	Vb	Haul Number or pieces of net			8	6							
		Mean Cod landings by haul			0	0							
		Mean Cod discards by haul			0	0							
	VIa	Haul Number or pieces of net	4		1	167							
		Mean Cod landings by haul	0		0	0							
		Mean Cod discards by haul	0		0	0							
	VIb	Haul Number or pieces of net				45							
		Mean Cod landings by haul				0							
		Mean Cod discards by haul				0							
	VIIb	Haul Number or pieces of net				2							
		Mean Cod landings by haul				0							
		Mean Cod discards by haul				0							
	VIIc	Haul Number or pieces of net				6							
		Mean Cod landings by haul				0							
		Mean Cod discards by haul				0							
	VIId	Haul Number or pieces of net	23		262			7	47		9		
		Mean Cod landings by haul	1.15385		6.87751			0	5.18		1.5		
		Mean Cod discards by haul	0.52		0.02857			0	0.133		0		
	VIIe	Haul Number or pieces of net			12		3		34				
		Mean Cod landings by haul			0.78333		0		0.179				
		Mean Cod discards by haul			0.08333		0		0.714				
	VIIf	Haul Number or pieces of net			4								
		Mean Cod landings by haul			2.4								
		Mean Cod discards by haul			0								
	VIIg	Haul Number or pieces of net		20	56								
		Mean Cod landings by haul		4.425	19.3023								
		Mean Cod discards by haul		0	0.59318								
	VIIh	Haul Number or pieces of net	86	38	17				8				
		Mean Cod landings by haul	1.94186	4.078947	7.77879				0				
		Mean Cod discards by haul	0	0	0.13636				0				
	VIIIa	Haul Number or pieces of net	33	125	36	8			162				
		Mean Cod landings by haul	0	0	0	0			0				
		Mean Cod discards by haul	0	0	0	0			0.073				
	VIIIb	Haul Number or pieces of net	15	8	4				32				
		Mean Cod landings by haul	0	0	0				0				
		Mean Cod discards by haul	0	0	0				0				
	VIIId	Haul Number or pieces of net	1			1							
		Mean Cod landings by haul	12			0							
		Mean Cod discards by haul	0			0							
	VIIj	Haul Number or pieces of net			8	52							
		Mean Cod landings by haul			3.6875	0							
		Mean Cod discards by haul			0.325	0							
	VIIk	Haul Number or pieces of net				12							
		Mean Cod landings by haul				0							
		Mean Cod discards by haul				0							

Table 1 : French raw data from DRC Program : Cod landings and discards (continued)

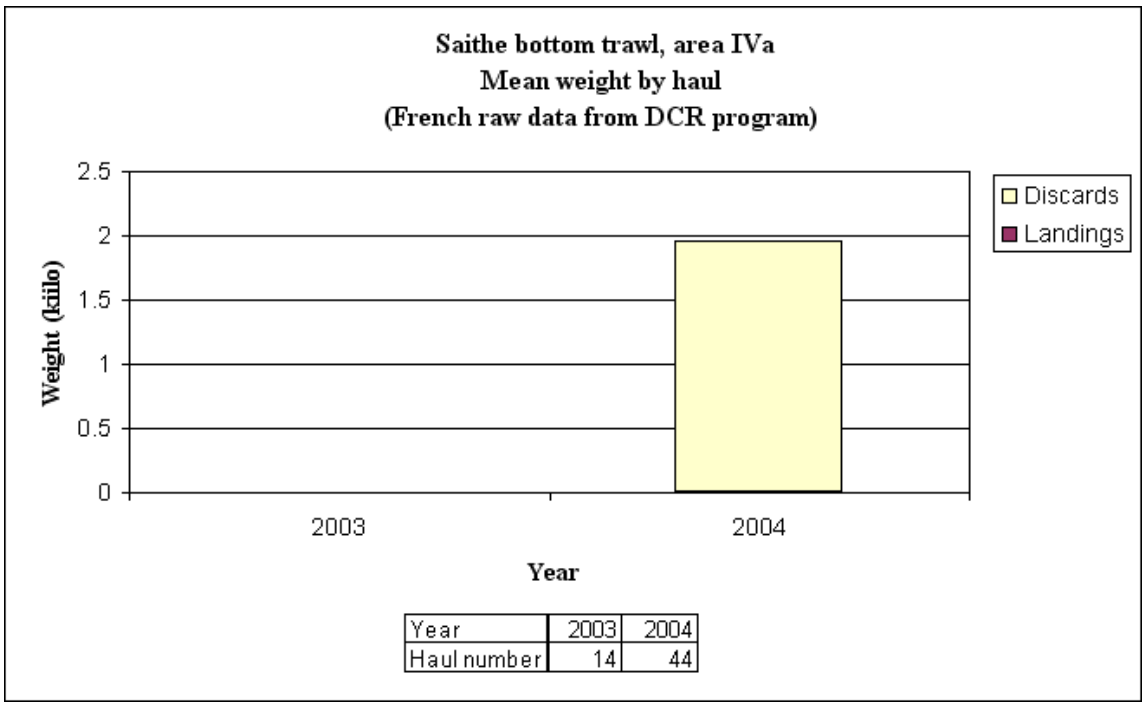
Year	Ices division	Data type	Benthic bottom trawl	Crustacean bottom trawl	Demersal bottom trawl	Deep sea bottom trawl	Pots	Beam trawl	Nets	Anchovy pelagic trawl	Miscellaneous fishes pélagic trawl	Pilchard pelagic trawl	Albacore pelagic trawl
2005	IVb	Haul Number or pieces of net			25								
		Mean Cod landings by haul			2.72								
		Mean Cod discards by haul			1.92								
	IVc	Haul Number or pieces of net			36				10				
		Mean Cod landings by haul			2.35938				0				
		Mean Cod discards by haul			0.67188				0.06				
	Vb	Haul Number or pieces of net				2							
		Mean Cod landings by haul				0							
		Mean Cod discards by haul				0							
	VIa	Haul Number or pieces of net	1		9	135							
		Mean Cod landings by haul	0		0	0							
		Mean Cod discards by haul	0		0	0							
	VIb	Haul Number or pieces of net				5							
		Mean Cod landings by haul				0							
		Mean Cod discards by haul				0							
	VIIa	Haul Number or pieces of net	14										
		Mean Cod landings by haul	10.1385										
		Mean Cod discards by haul	1.59231										
	VIId	Haul Number or pieces of net	56		186			20	46		8		
		Mean Cod landings by haul	0.844		1.75481			0	425.4		0		
		Mean Cod discards by haul	0.048		0			0	0.13		0		
	VIIe	Haul Number or pieces of net			25			6	6				
		Mean Cod landings by haul			0.576			0	0				
		Mean Cod discards by haul			0			0	0				
	VIIf	Haul Number or pieces of net			4								
		Mean Cod landings by haul			0								
		Mean Cod discards by haul			0								
	VIIg	Haul Number or pieces of net	100	251	63								
		Mean Cod landings by haul	12.8048	25.02116	41.2132								
		Mean Cod discards by haul	1.89416	4.199957	2.31059								
	VIIh	Haul Number or pieces of net	106	21		8							
		Mean Cod landings by haul	5.02877	15.25		0							
		Mean Cod discards by haul	0.29292	0.6		0							
	VIIIa	Haul Number or pieces of net	57	172	174				107				
		Mean Cod landings by haul	0	0	0				0				
		Mean Cod discards by haul	0	0	0				0				
	VIIIb	Haul Number or pieces of net	30	30	46								
		Mean Cod landings by haul	0	0	0								
		Mean Cod discards by haul	0	0	0								
	VIIId	Haul Number or pieces of net	1			2							
		Mean Cod landings by haul	0			0							
		Mean Cod discards by haul	0			0							
	VIIj	Haul Number or pieces of net	78	10	10								
		Mean Cod landings by haul	4.1137	0	6.2707								
		Mean Cod discards by haul	0	0	0.64052								
	VIIk	Haul Number or pieces of net		57									
		Mean Cod landings by haul		0									
		Mean Cod discards by haul		0									
2006	IVb	Haul Number or pieces of net			28								
		Mean Cod landings by haul			0								
		Mean Cod discards by haul			0.025								
	IVc	Haul Number or pieces of net			51						5		
		Mean Cod landings by haul			23.6226						0		
		Mean Cod discards by haul			2.75806						0		
	Vb	Haul Number or pieces of net				1							
		Mean Cod landings by haul				0							
		Mean Cod discards by haul				0							
	VIa	Haul Number or pieces of net	10		2	38							
		Mean Cod landings by haul	0		0	0							
		Mean Cod discards by haul	0		0	0							
	VIb	Haul Number or pieces of net			11	12							
		Mean Cod landings by haul			0	0							
		Mean Cod discards by haul			0	0							
	VIIa	Haul Number or pieces of net	9			1							
		Mean Cod landings by haul	3.875			0							
		Mean Cod discards by haul	2.875			0							
	VIId	Haul Number or pieces of net	26		98				14		6		
		Mean Cod landings by haul	0		0.30502				0		0		
		Mean Cod discards by haul	0		0.8				0		0		
	VIIe	Haul Number or pieces of net	1		76				22		3		1
		Mean Cod landings by haul	0		10.2076				0.395		0		0
		Mean Cod discards by haul	0		2.31876				0.799		0		0
	VIIf	Haul Number or pieces of net	3		28								
		Haul Number or pieces of net	23.3333		32.6611								
		Mean Cod discards by haul	0.3		6.94889								
	VIIg	Haul Number or pieces of net	68	112	125								
		Mean Cod landings by haul	27.2912	29.11386	52.0142								
		Mean Cod discards by haul	4.78947	1.921383	3.83562								
	VIIh	Haul Number or pieces of net	86	13	3	27							
		Mean Cod landings by haul	4.19675	23.25476	2.66667	0							
		Mean Cod discards by haul	0	0.514286	0	0							
	VIIIa	Haul Number or pieces of net	69	99	151				150		24		11
		Mean Cod landings by haul	0.27222	0	0				0		0		0
		Mean Cod discards by haul	0	0	0				0		0		0
	VIIIb	Haul Number or pieces of net	2		22		1		123		1		39
		Mean Cod landings by haul	0		0		0		0.017		0		0
		Mean Cod discards by haul	0		0		0		0		0		0
	VIIIc	Haul Number or pieces of net							1				16
		Mean Cod landings by haul							0				0
		Haul Number or pieces of net							0				0
	VIIId	Haul Number or pieces of net	22										88
		Mean Cod landings by haul	0										0
		Mean Cod discards by haul	0										0
	VIIIe	Haul Number or pieces of net							1				
		Mean Cod landings by haul							0				
		Mean Cod discards by haul							0				
	VIIj	Haul Number or pieces of net	4		4	32							1
		Mean Cod landings by haul	12		10.075	0							0
		Mean Cod discards by haul	0.625		0	0							0

Table 1 : French raw data from DRC Program : Cod landings and discards (continued)

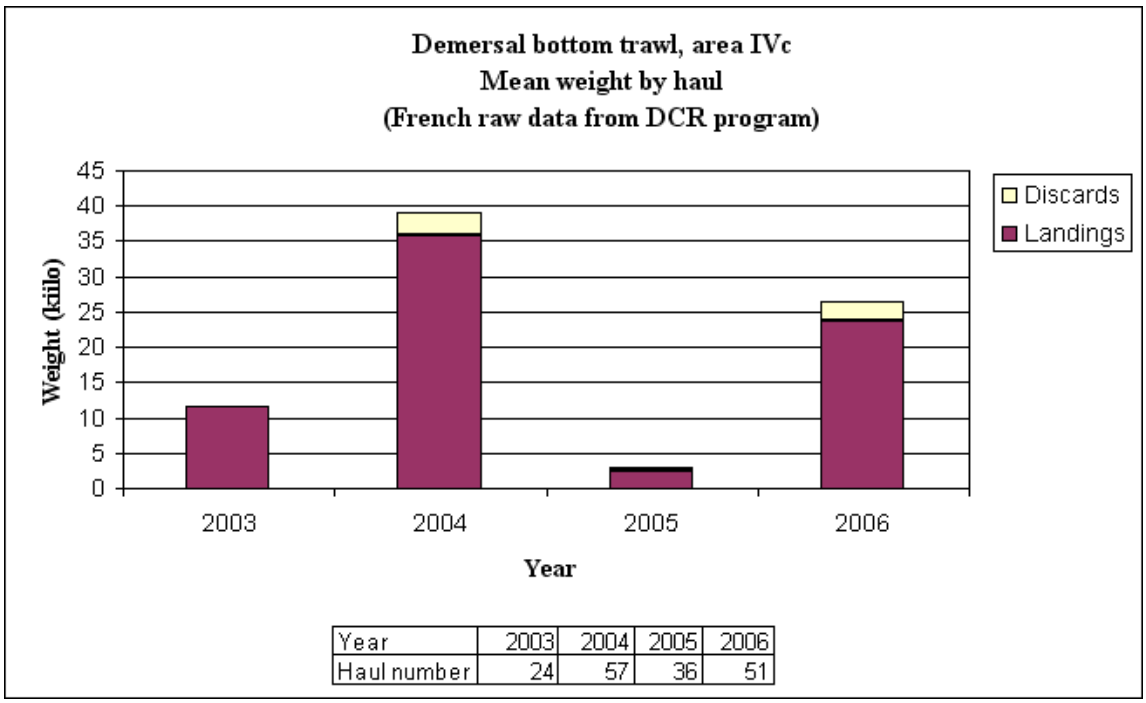
Year	Ices division	Data type	Benthic bottom trawl	Crustacean bottom trawl	Demersal bottom trawl	Deep sea bottom trawl	Pots	Beam trawl	Nets	Anchovy pelagic trawl	Miscellaneous fishes pélagic trawl	Pilchard pelagic trawl	Albacore pelagic trawl
2007	VIId	Haul Number or pieces of net	83		141				23		42		
		Mean Cod landings by haul	0.88542		10.3868				14.97		146.0896668		
		Mean Cod discards by haul	0		0.10833				1.249		0.172444452		
	VIIe	Haul Number or pieces of net	2		25				150		154		2
		Mean Cod landings by haul	0.32562		0.56111				1.163		0		0
		Mean Cod discards by haul	0		0				0.161		0		0
	VIIf	Haul Number or pieces of net							15				
		Mean Cod landings by haul							0.922				
		Mean Cod discards by haul							0.52				
	VIIg	Haul Number or pieces of net		41									
		Mean Cod landings by haul		4.037073									
		Mean Cod discards by haul		0.378143									
	VIIh	Haul Number or pieces of net	164		47				2		7		
		Mean Cod landings by haul	2.00516		1.05319				0		0		
		Mean Cod discards by haul	0.03077		0				0		0		
	VIIIa	Haul Number or pieces of net	179	97	147				986	27	103		3
		Mean Cod landings by haul	0.38108	0.053453	0.16696				0.09	0	0		0
		Mean Cod discards by haul	0.01905	0	0				0.001	0	0		0
	VIIIb	Haul Number or pieces of net	5	2	16				427	168	107		4
		Mean Cod landings by haul	0	0	0				0.009	0	0		0
		Mean Cod discards by haul	0	0	0				0.009	0	0		0
	VIIIc	Haul Number or pieces of net							7	3	4	1	18
		Mean Cod landings by haul							0	0	0	0	0
		Mean Cod discards by haul							0	0	0	0	0
	VIIId	Haul Number or pieces of net	41						2	14			82
		Mean Cod landings by haul	0						0	0			0
		Mean Cod discards by haul	0						0	0			0
	VIIIe	Haul Number or pieces of net											1
		Mean Cod landings by haul											0
		Mean Cod discards by haul											0
	VIIj	Haul Number or pieces of net	9										19
		Mean Cod landings by haul	0										0
		Mean Cod discards by haul	0										0
	VIIk	Haul Number or pieces of net											27
		Mean Cod landings by haul											0
		Mean Cod discards by haul											0
2008	VIId	Haul Number or pieces of net									10		
		Mean Cod landings by haul									0		
		Mean Cod discards by haul									0		
	VIIe	Haul Number or pieces of net			5				6		17		
		Mean Cod landings by haul			0				0		0		
		Mean Cod discards by haul			0				0		0		
	VIIg	Haul Number or pieces of net		27									
		Mean Cod landings by haul		21.85185									
		Mean Cod discards by haul		0.05463									
	VIIh	Haul Number or pieces of net	12										
		Mean Cod landings by haul	0.33167										
		Mean Cod discards by haul	0										
	VIIIa	Haul Number or pieces of net	11	24					105		10		
		Mean Cod landings by haul	0	0					0.045		0		
		Mean Cod discards by haul	0	0					0		0		
	VIIIb	Haul Number or pieces of net							190		40		
		Mean Cod landings by haul							0		0		
		Mean Cod discards by haul							0		0		
	VIIIc	Haul Number or pieces of net									4		
		Mean Cod landings by haul									0		
		Mean Cod discards by haul									0		
	VIIId	Haul Number or pieces of net	2								2		
		Mean Cod landings by haul	0								0		
		Mean Cod discards by haul	0								0		

Figure 1 French raw data from DRC Program

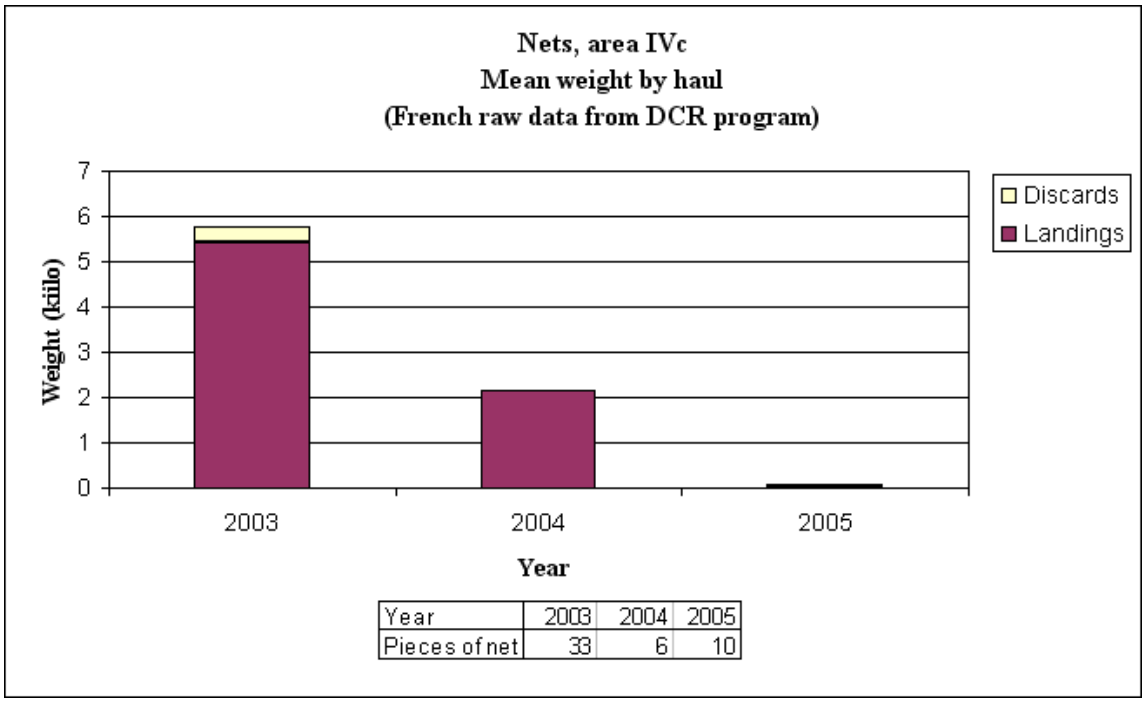
Cod landings and discards



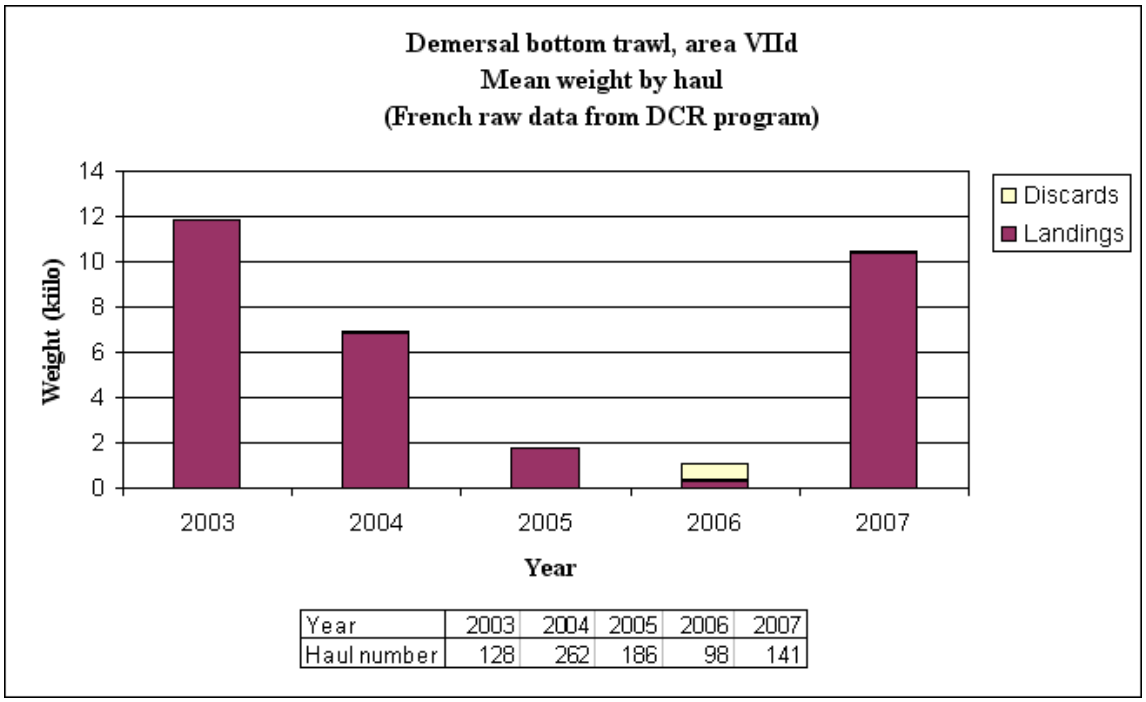
Year	2003	2004
Haul number	14	44



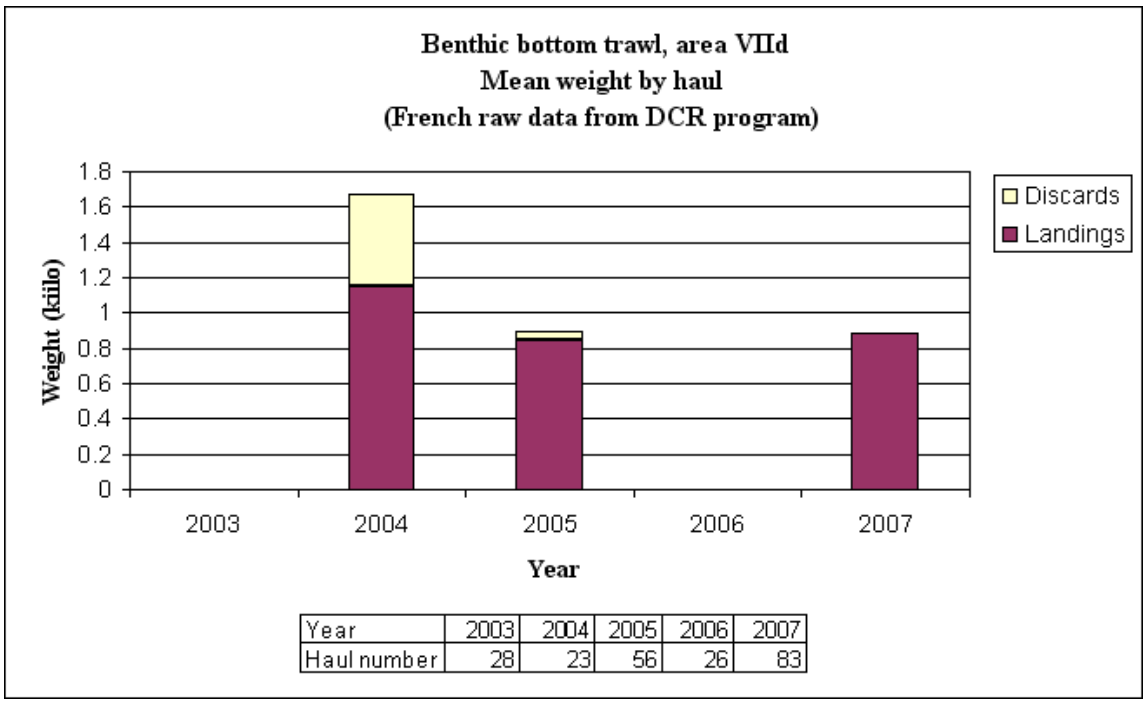
Year	2003	2004	2005	2006
Haul number	24	57	36	51



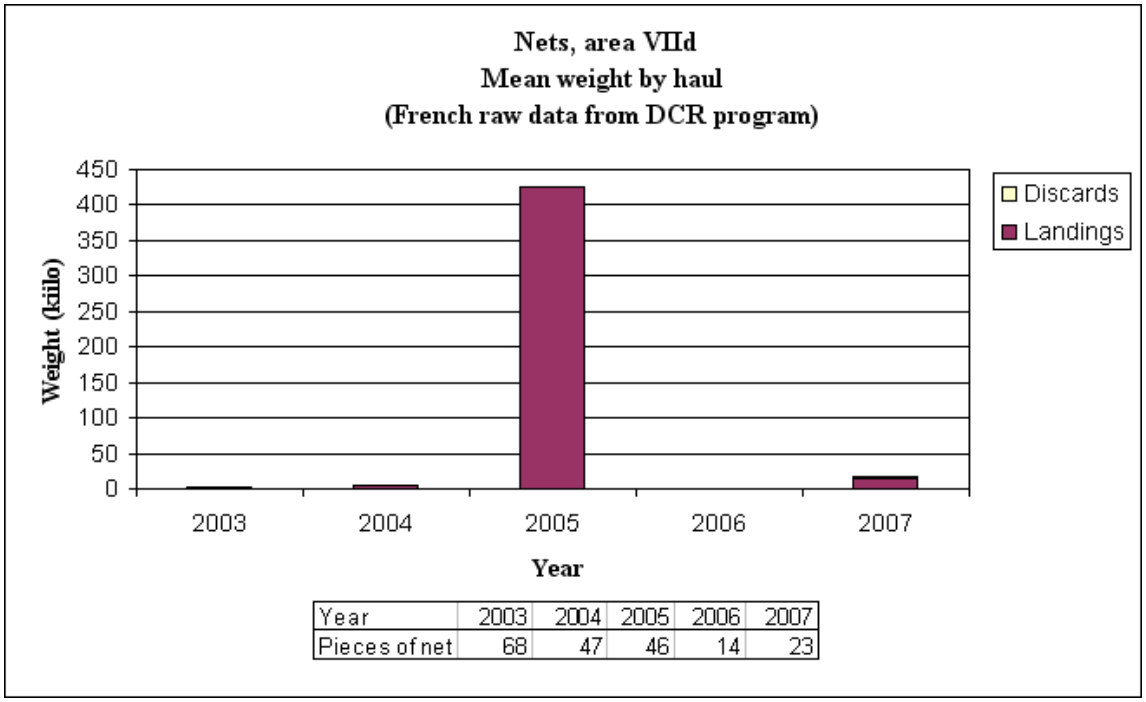
Year	2003	2004	2005
Pieces of net	33	6	10



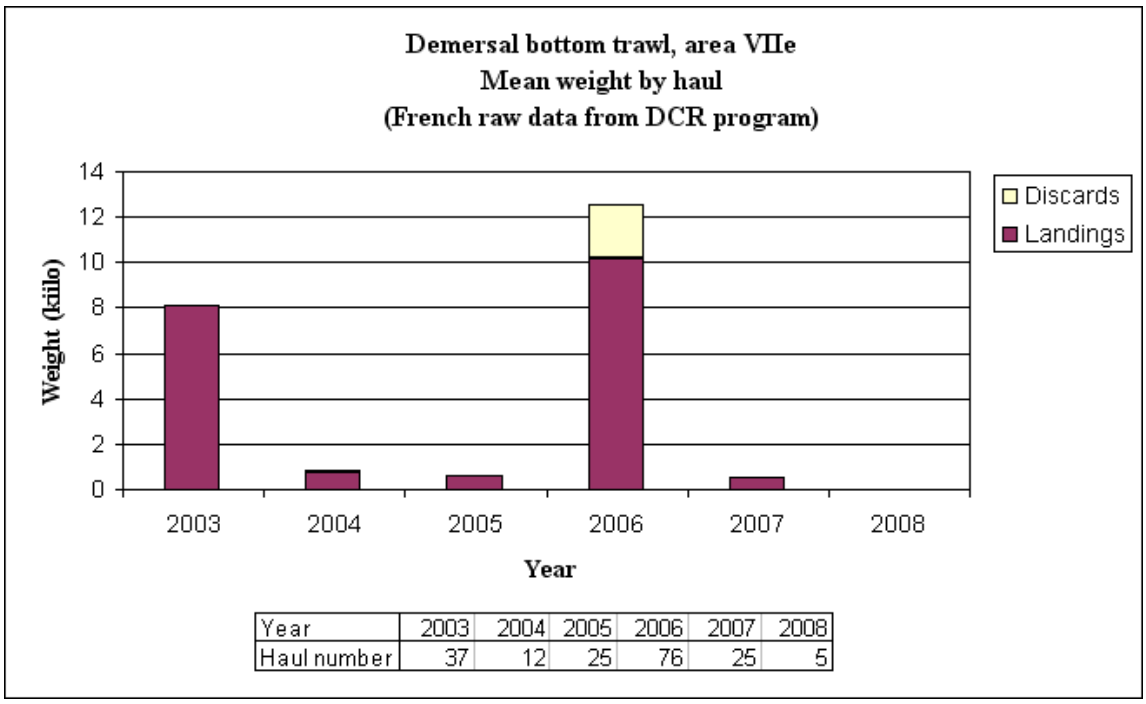
Year	2003	2004	2005	2006	2007
Haul number	128	262	186	98	141



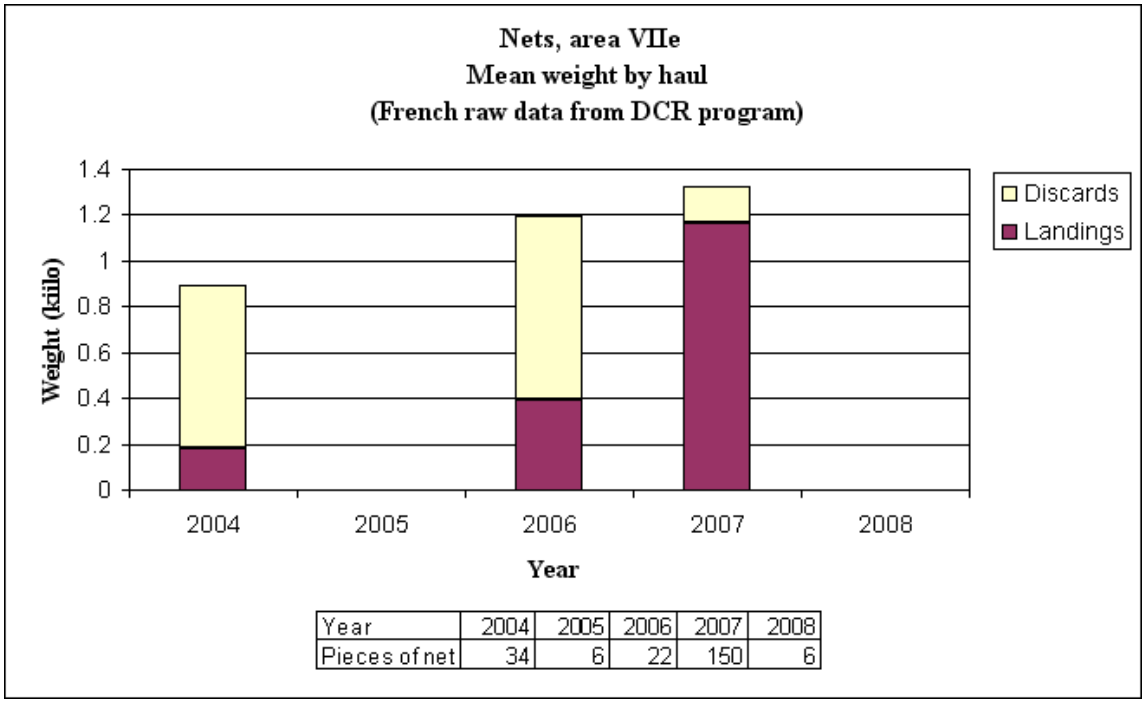
Year	2003	2004	2005	2006	2007
Haul number	28	23	56	26	83



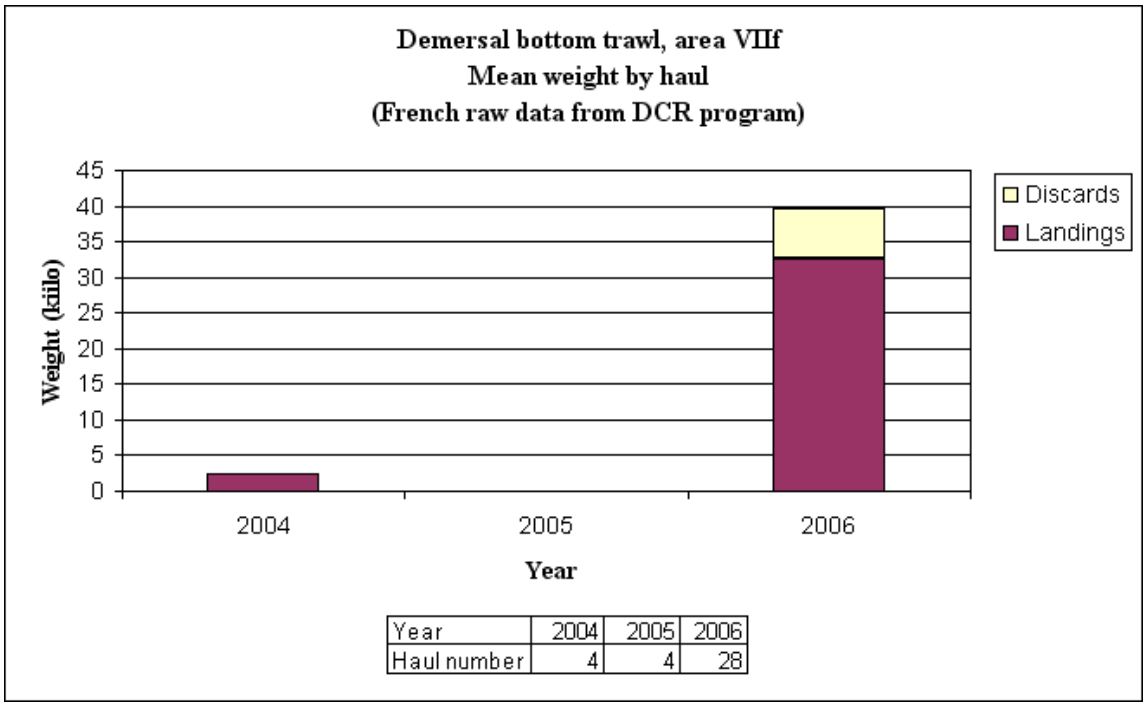
Year	2003	2004	2005	2006	2007
Pieces of net	68	47	46	14	23



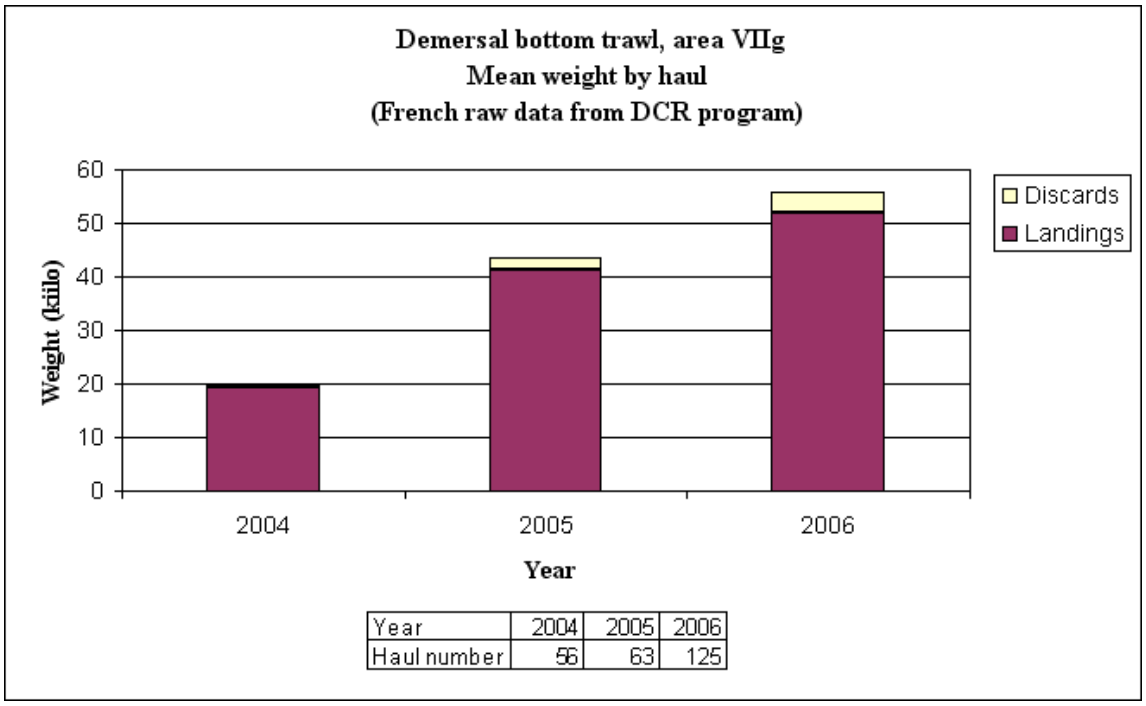
Year	2003	2004	2005	2006	2007	2008
Haul number	37	12	25	76	25	5



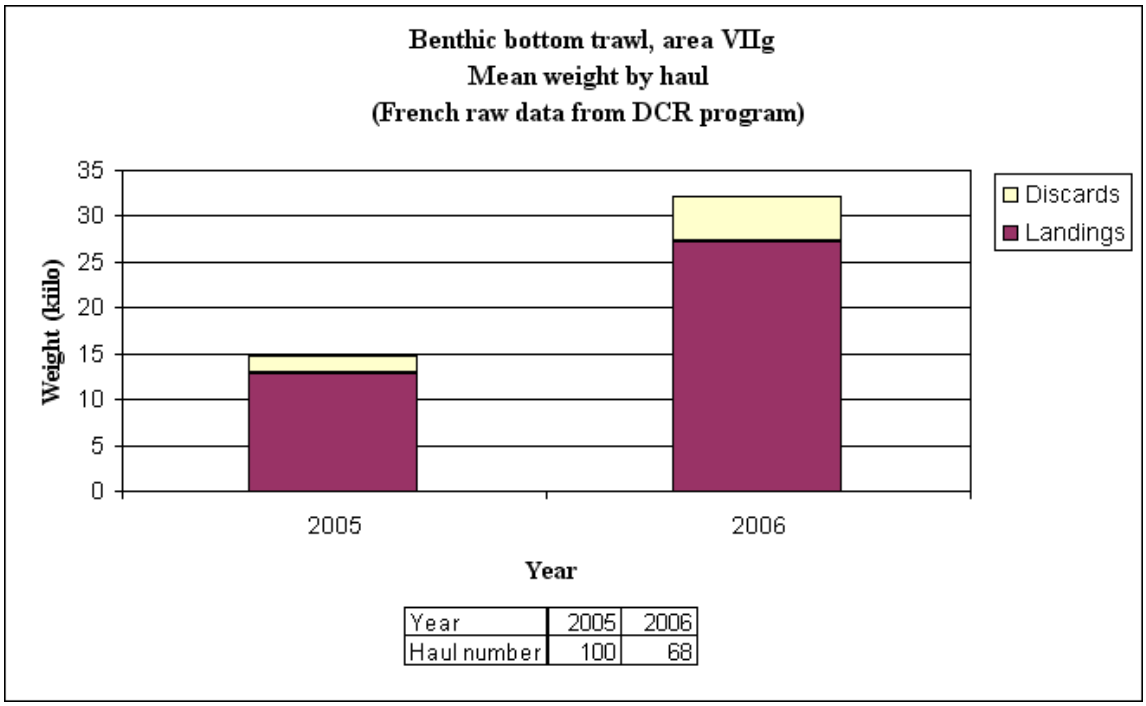
Year	2004	2005	2006	2007	2008
Pieces of net	34	6	22	150	6



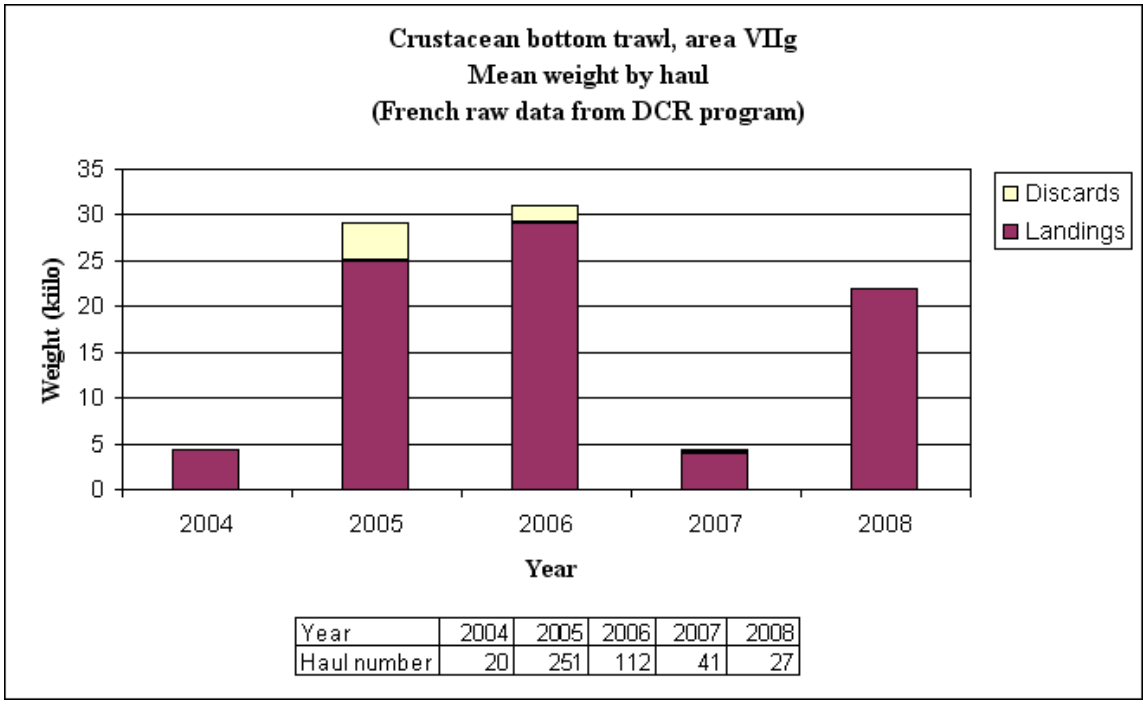
Year	2004	2005	2006
Haul number	4	4	28



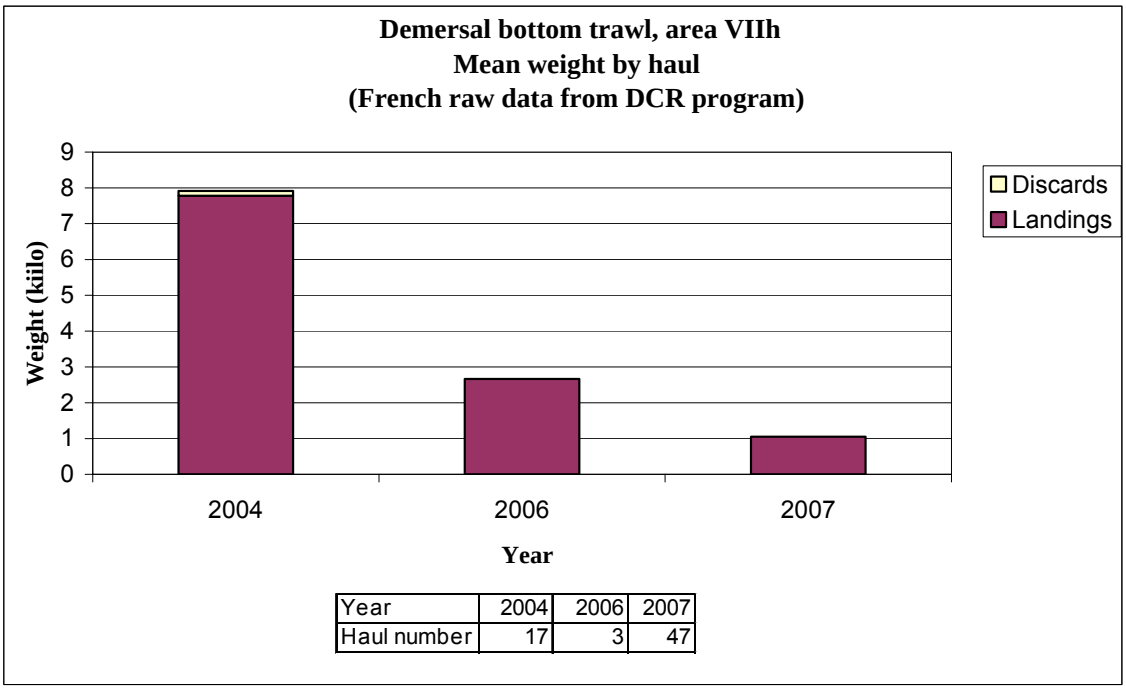
Year	2004	2005	2006
Haul number	56	63	125



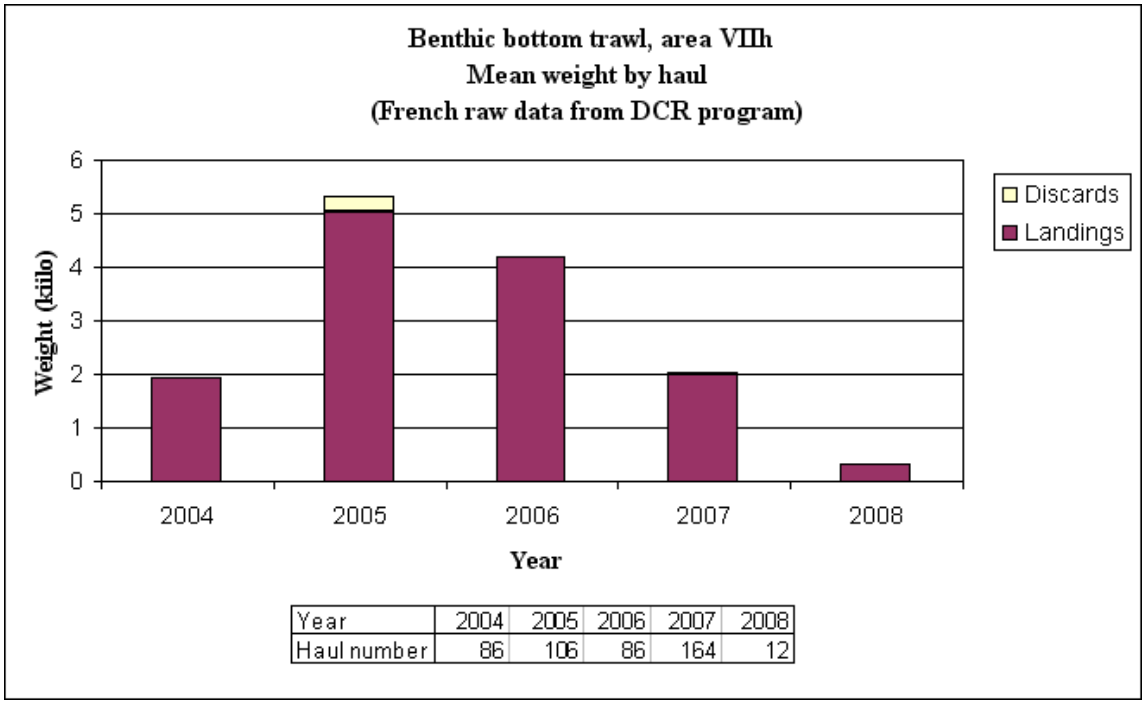
Year	2005	2006
Haul number	100	68



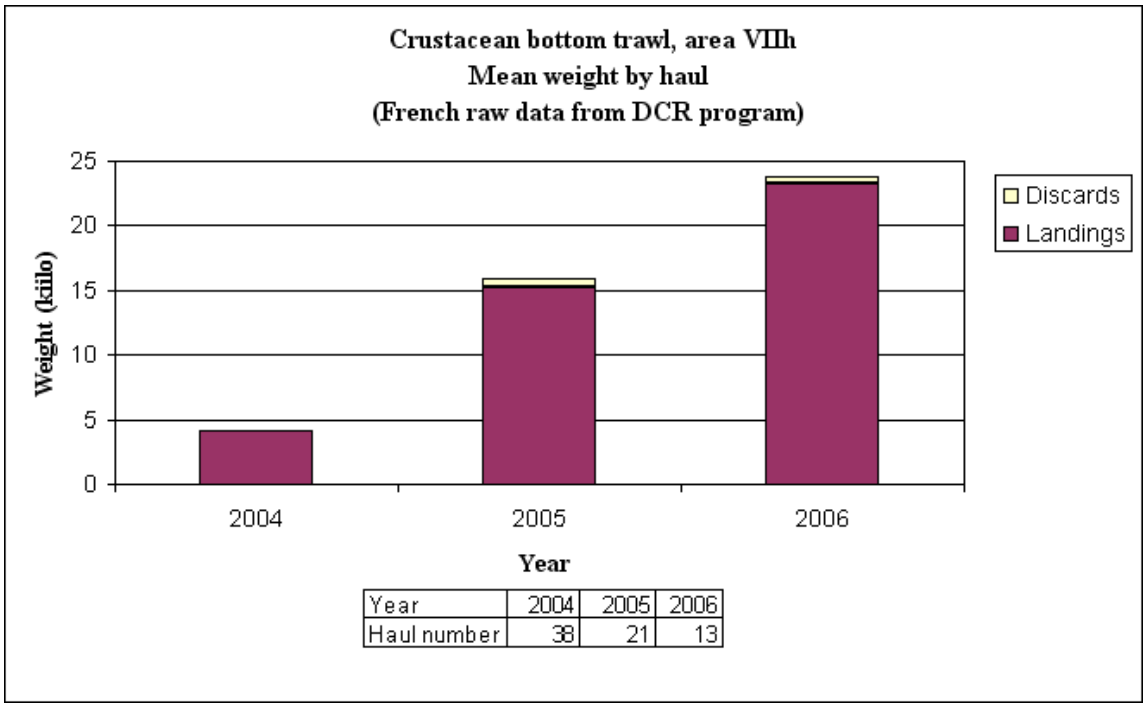
Year	2004	2005	2006	2007	2008
Haul number	20	251	112	41	27



Year	2004	2006	2007
Haul number	17	3	47



Year	2004	2005	2006	2007	2008
Haul number	86	106	86	164	12



Year	2004	2005	2006
Haul number	38	21	13

15. APPENDIX 5: ANALYSIS OF THE FRENCH MÉTIERS

a) Methodology

The French log-books available to Ifremer were analyzed on the basis of 'fishing sequences' (i.e. the more detailed information available, which is each single line filled in the log-book).

Depending on the area, the gear used and the species composition, each of these fishing sequences was allocated to a "métier".

The first selection is on the fishing area, the second one on the gear and the third one is on the species composition, according to various thresholds of target species (or group of species) contributing to the total landings from this fishing sequence.

The areas considered are as followed:

- Celtic Sea : ICES sub-area VII except VIIa and VIId
- West of Scotland: ICES sub-areas V and VI
- North Sea: ICES sub-area IV
- Eastern Channel : ICES division VIId

Two types of gears have been considered in this analysis: Bottom trawls and Nets.

The choice of the species (or the group of species) used to discriminate the fishing sequences, and the value of the thresholds used, derive from previous studies and some preliminary trials.

The main species (also called 'target' species) and the thresholds are as follows, depending on the areas and gears:

Area	Gear	Target Species	Thresholds
Celtic Sea	Bottom Trawls	Benthic species (anglerfish, megrim, rays)	20%
		Gadoids	40%
		Nephrops	10%
		Others	
	Nets	Anglerfish	30%
		Hake	30%
		Sole	30%
		Others	

Area	Gear	Target Species	Thresholds
West Scotland	Bottom Trawls	Benthic species (anglerfish, megrim, rays)	20%
		Gadoids (except blue ling)	20%
		Blue ling	20%
		Deep Species (grenadier, deep sharks, blackscabbard fish)	20%
		Others	
	Nets	Anglerfish	30%
		Hake	30%
		Others	

Area	Gear	Target Species	Thresholds
North Sea	Bottom Trawls	Saithe	40%
		Gadoids (except saithe)	30%
		Sole	20%
		Others	
	Nets	Sole	30%
		Gadoids	30%
		Others	

Area	Gear	Target species	Thresholds
Eastern Channel	Bottom Trawls	Gadoids	30%
		Sole	20%
		Others	
	Nets	Sole	30%
		Gadoids	30%
		Others	

The levels of the thresholds could be fixed over the studied period based on previous multivariable analysis, or determined by the effectiveness of the discrimination of the landings of the given species. The final choice always results in a compromise since thresholds set too low cannot discriminate enough, and if too high, the proportion of unclassified fishing sequences is too big.

Ideally, the percentage of each species or group of species should be based on value. However, previous analyses showed that, even in weight, relevant thresholds could be found. As no values information are directly available since 1999, the current analyses are carried out on a weight basis.

b) Results

The results of this classification are presented in Figures 1 and 2, in terms of relative fishing effort of each metier on a gear-area basis and in the species composition within each metier. The latter are provided for the year 2000, but the choice of the year does not really matter to illustrate how this method works and provides somewhat interesting results.

Figure 1 below shows how the total fishing effort (as reported in the log-books) is allocated within each metier in 2000 and 2006.

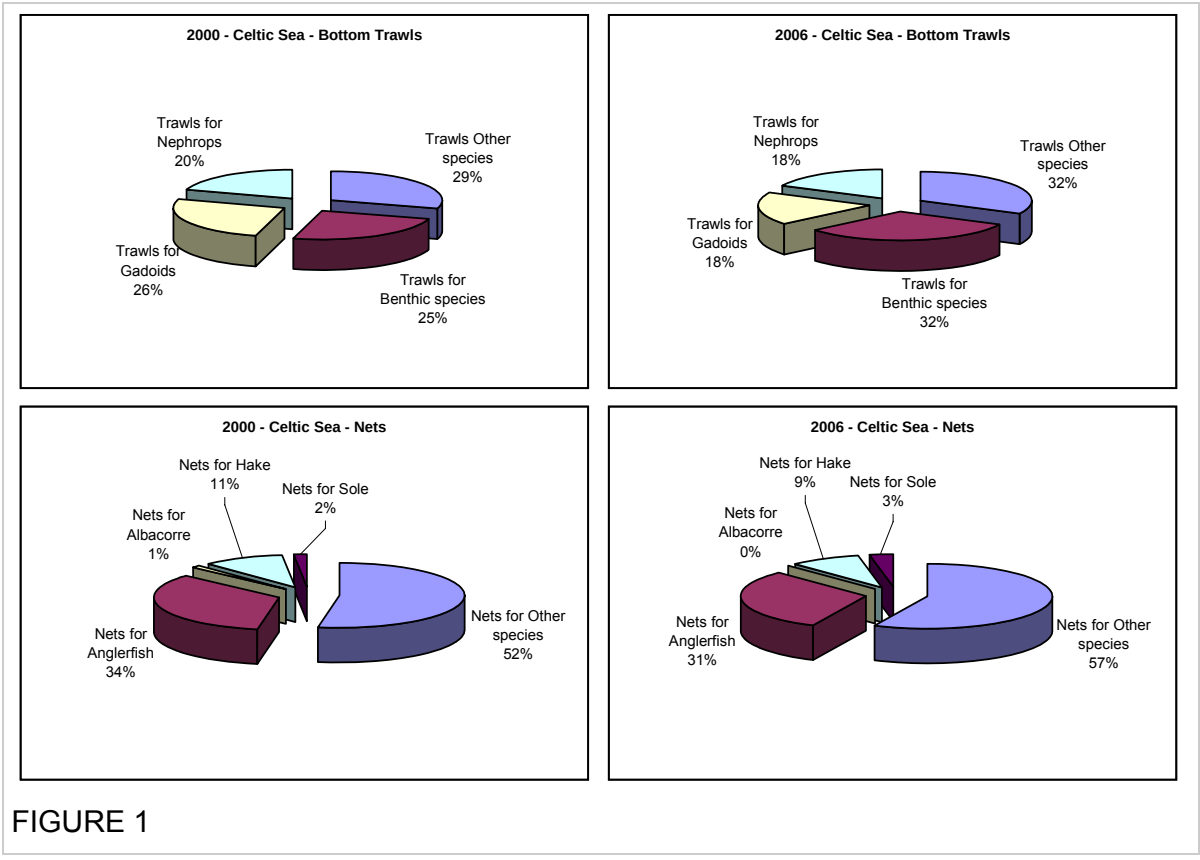
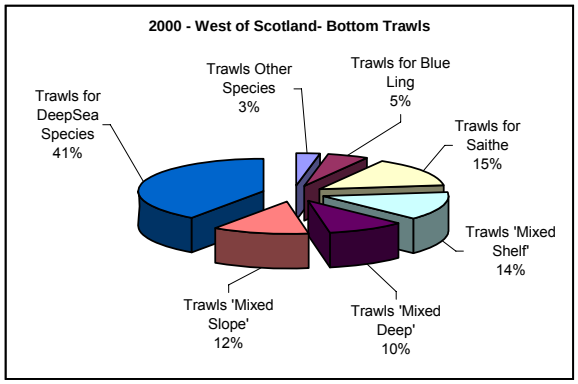
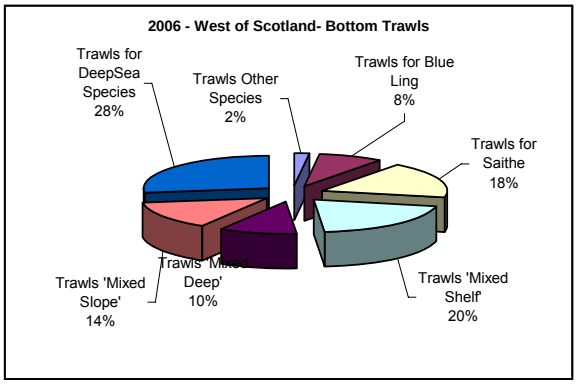
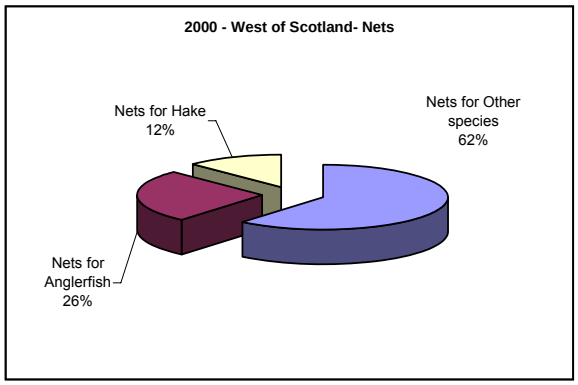


FIGURE 1







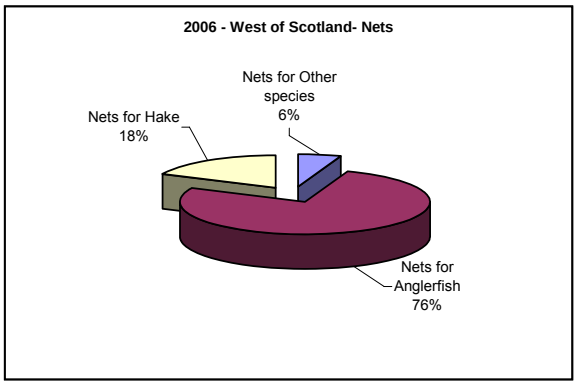
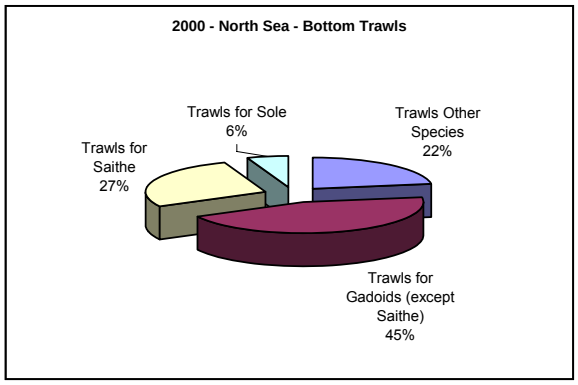
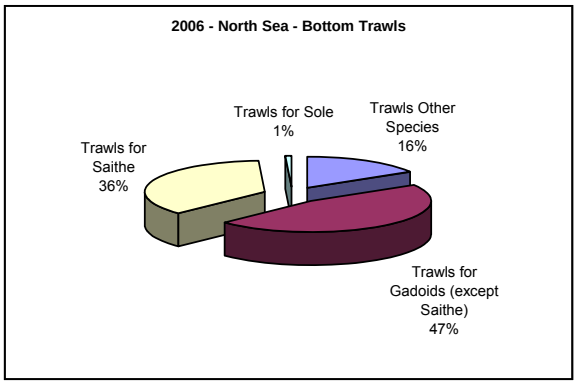
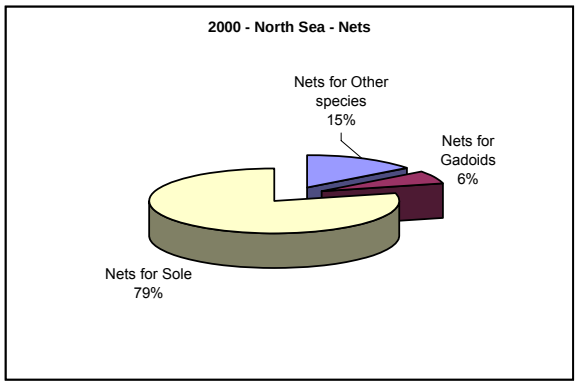


FIGURE 1







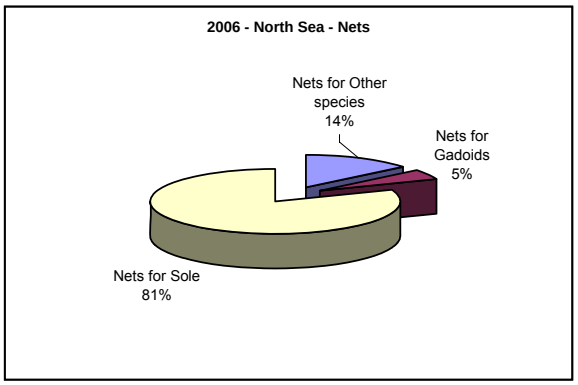


FIGURE 1

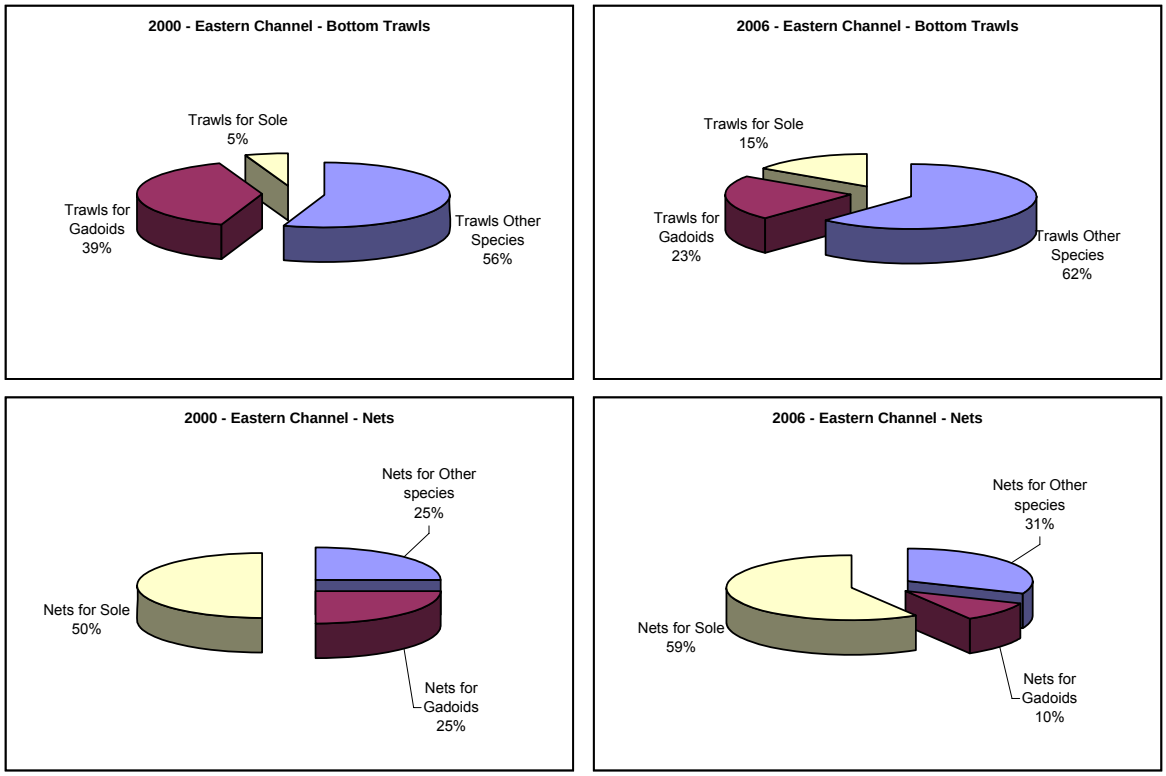
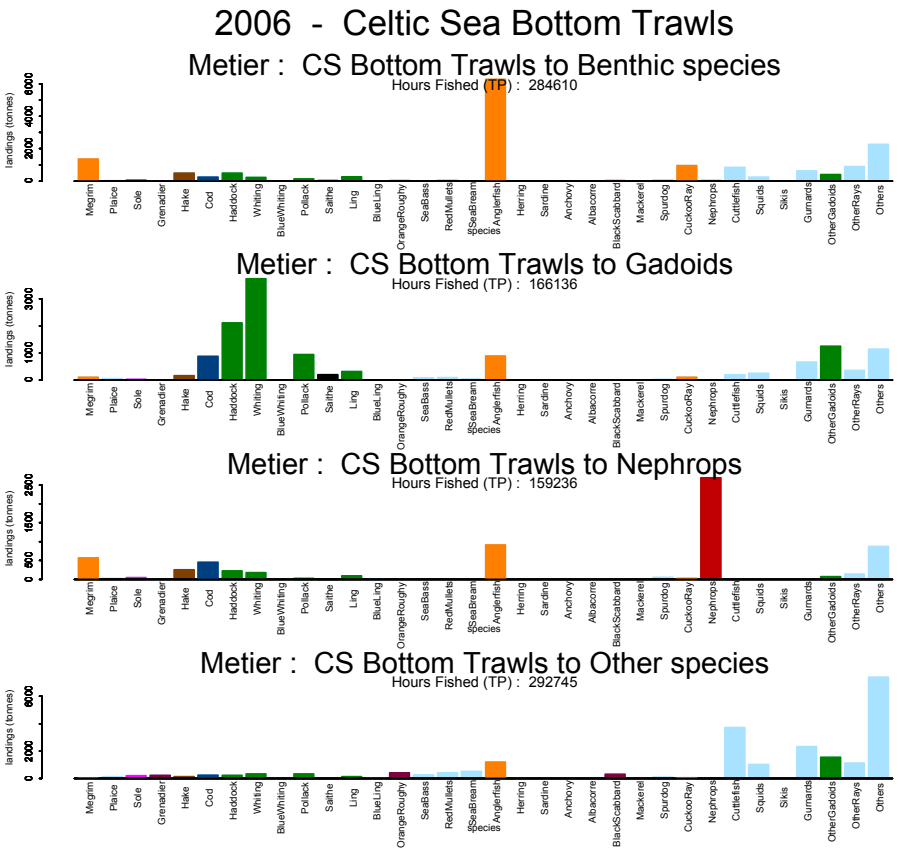

2000 - Eastern Channel - Bottom Trawls
Trawls for Sole 5%
Trawls for Gadoids 39%
Trawls Other Species 56%
2006 - Eastern Channel - Bottom Trawls
Trawls for Sole 15%
Trawls for Gadoids 23%
Trawls Other Species 62%
2000 - Eastern Channel - Nets
Nets for Other species 25%
Nets for Sole 50%
Nets for Gadoids 25%
2006 - Eastern Channel - Nets
Nets for Other species 31%
Nets for Sole 59%
Nets for Gadoids 10%

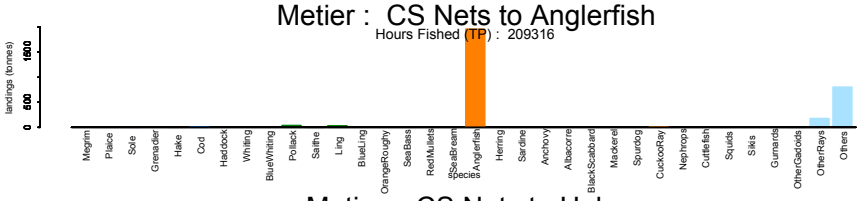
FIGURE1

Figure 2 presents the species composition in the landings of each metier for year 2006 as an example.

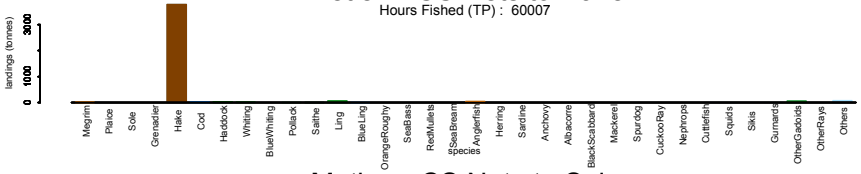


2006 - Celtic Sea Nets

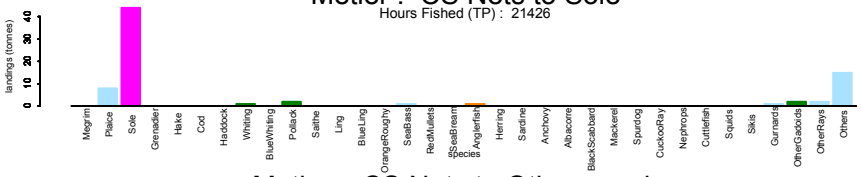
Metier : CS Nets to Anglerfish



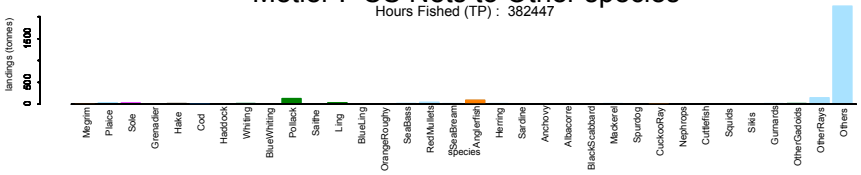
Metier : CS Nets to Hake



Metier : CS Nets to Sole

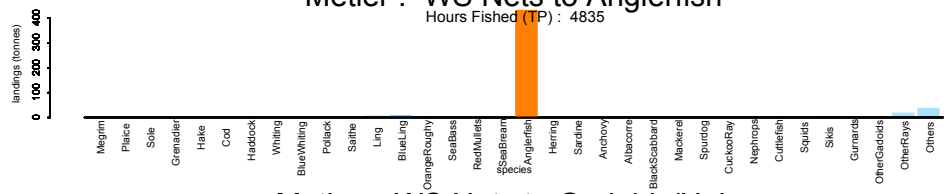


Metier : CS Nets to Other species

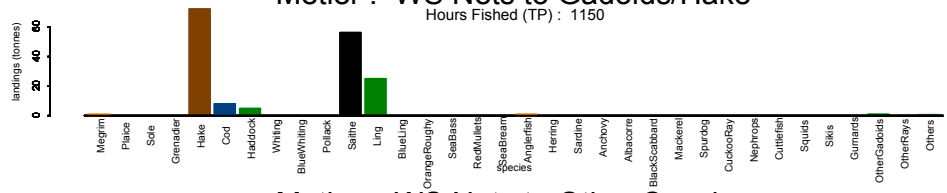


2006 - West of Scotland Nets

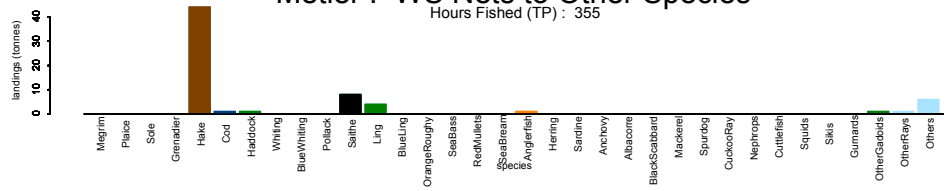
Metier : WS Nets to Anglerfish



Metier : WS Nets to Gadoids/Hake



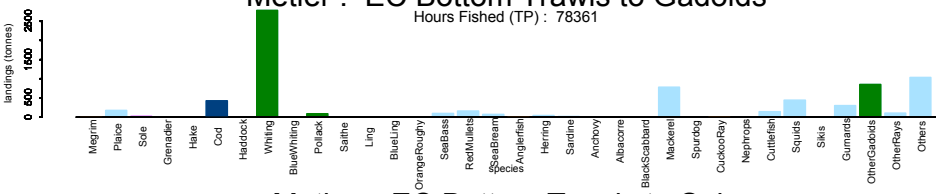
Metier : WS Nets to Other Species



2006 - Eastern Channel Bottom Trawls

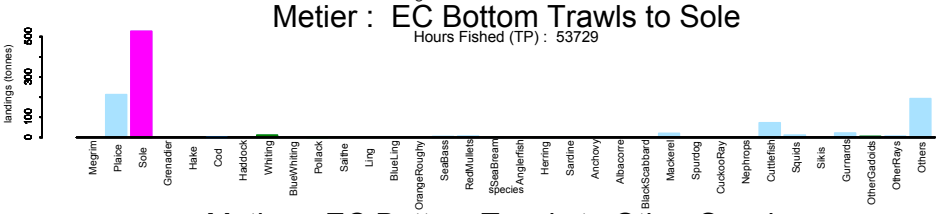
Metier : EC Bottom Trawls to Gadoids

Hours Fished (TP) : 78361



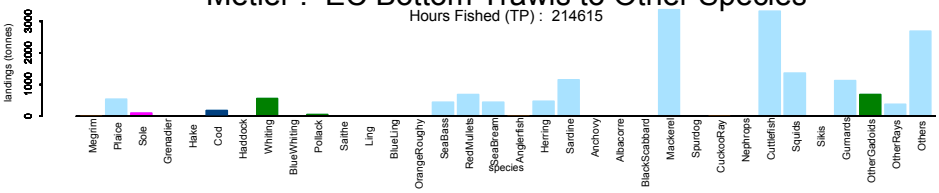
Metier : EC Bottom Trawls to Sole

Hours Fished (TP) : 53729



Metier : EC Bottom Trawls to Other Species

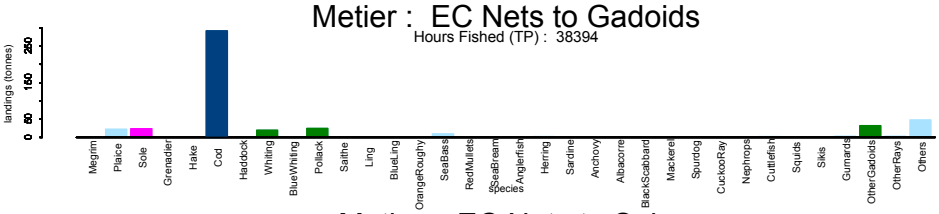
Hours Fished (TP) : 214615



2006 - Eastern Channel Nets

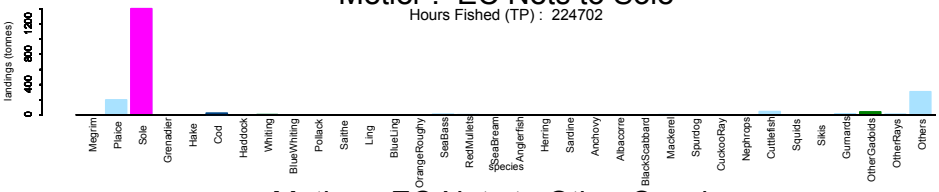
Metier : EC Nets to Gadoids

Hours Fished (TP) : 38394



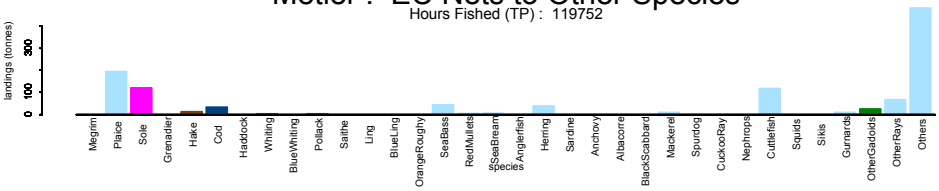
Metier : EC Nets to Sole

Hours Fished (TP) : 224702



Metier : EC Nets to Other Species

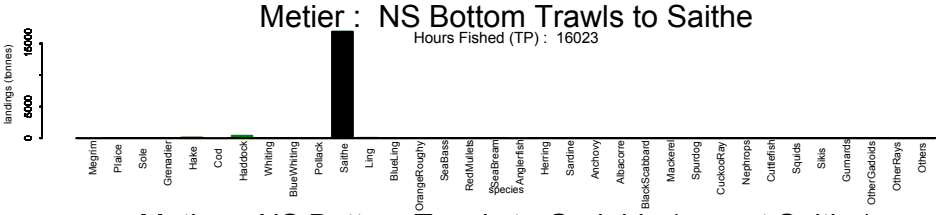
Hours Fished (TP) : 119752



2006 - North Sea Bottom Trawls

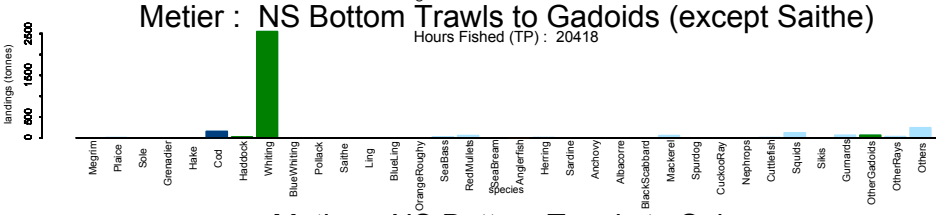
Metier : NS Bottom Trawls to Saithe

Hours Fished (TP) : 16023



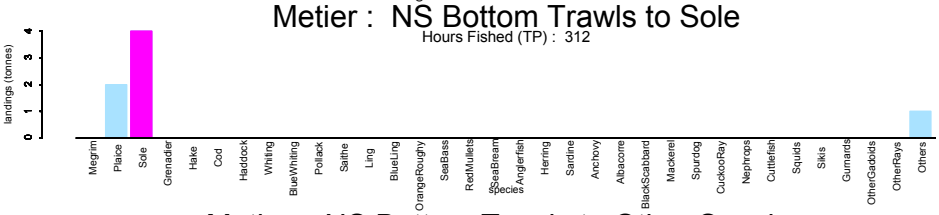
Metier : NS Bottom Trawls to Gadoids (except Saithe)

Hours Fished (TP) : 20418



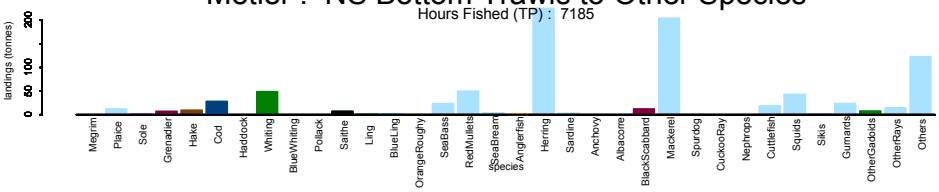
Metier : NS Bottom Trawls to Sole

Hours Fished (TP) : 312



Metier : NS Bottom Trawls to Other Species

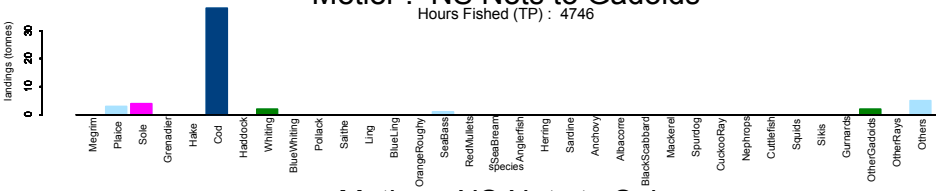
Hours Fished (TP) : 7185



2006 - North Sea Nets

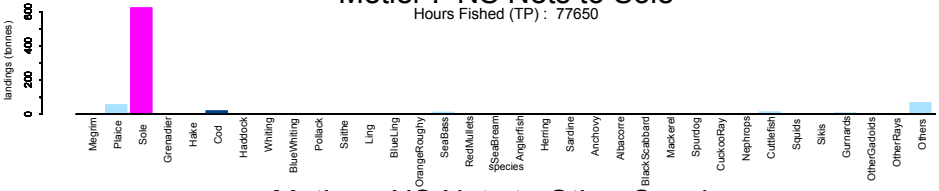
Metier : NS Nets to Gadoids

Hours Fished (TP) : 4746



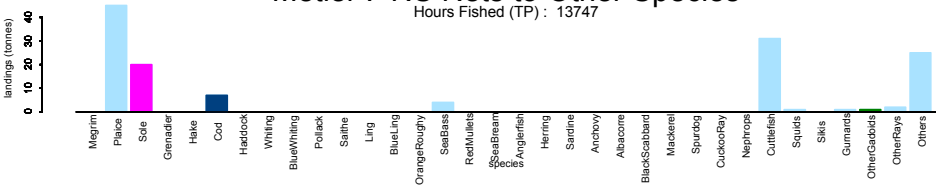
Metier : NS Nets to Sole

Hours Fished (TP) : 77650



Metier : NS Nets to Other Species

Hours Fished (TP) : 13747



It is clear that the relevant target species usually dominate the landings of 'their' métier, and that other target species contribute very little to the landings of the given metier. This is the case for cod for which several metiers do not catch any (or very few) cod.

Some mixed metiers still occur, but it is not clear if this mix reflects the actual mixture of species for each haul or if the data resolution could not allow separation of several different hauls during the same day (differences between days and nights in the Nephrops fishery; or between depth within the same rectangle in the deep fishery).

The fishing activity in the North Sea and Eastern Channel that has been classified in the metier 'Others' is quite substantial. This is probably due to the rather high thresholds used for the target species. This has to be investigated before drawing firm conclusion from this analysis.

It has to be noted that this classification does not take into account the mesh size. It is assumed that all the bottom trawls operated in the Celtic Sea and in the west of Scotland have mesh greater or equal to 100mm (including Nephrops trawlers). Bottom trawls used in the saithe metier in the North Sea have also mesh greater to 100mm. Trawls in the Eastern Channel and in the North Sea (except in the saithe fishery) are assumed to have mesh size in the range 70-100mm.

Given that a vessel could have several métiers in a same year, it is not possible to provide a precise fleet description (number of vessels and characteristics) in each of the defined métier. Furthermore, the computation was based on the available log-books only. For the fishery in area VI and VII, the available information can be considered as a representative sample of the whole fishery. This is probably not the case in the coastal areas and the information given by the available log-books should be considered as a biased sample (since available information is rather scarce for the smallest boats).

This approach should be considered as a preliminary classification of the French fishing activity. This could be refined in terms of target species and thresholds. However, this analysis shows that a same type of gear in the same area can be used to target different types of species. Therefore, constraints on the activity towards one species should be applied to the relevant metier(s). The definition of the 'effort groups' should account for that.

The difficulty in this approach is that this classification is based on *a posteriori* which needs to have accurate information of landings (preferably catches) of each species for each trip.

c) Correspondence between métiers and gear groups + special conditions

Table 1 provides the mean contribution of cod to the total landings of each métier for the years 2000-2007, and the average amount of cod landings. It shows that métiers with significant amount of cod landings are relatively well determined and that some métiers within the same area and using the same gear can be operated without catching (or few) cod.

Table 2 is an attempt to draw correspondence between these métiers and the current gear groups and special conditions as defined in Annex IIa.

Table 1 shows the percentage of cod by métier for the 2000-2007 period, and the average landings of cod over the period.

Métier COD	2000	2001	2002	2003	2004	2005	2006	2007	Average landings (t)
Bottom Trawls in the Celtic Sea to Benthic species	2.9%	4.6%	3.1%	2.1%	1.5%	1.1%	1.5%	1.7%	362
Bottom Trawls in the Celtic Sea to Gadoids species	10.6%	15.2%	20.2%	14.8%	7.9%	5.3%	6.4%	10.5%	2396
Bottom Trawls in the Celtic Sea to Nephrops	9.4%	11.6%	12.1%	11.2%	7.1%	5.5%	6.8%	9.9%	785
Bottom Trawls in the Celtic Sea to Other species	1.9%	2.2%	1.9%	1.4%	0.7%	0.8%	1.1%	1.3%	362
Bottom Trawls in the W Scotland to Saithe	2.1%	3.7%	2.8%	1.7%	1.2%	1.2%	0.8%	1.1%	99
Bottom Trawls in the W Scotland to 'Mixed species in the shelf'	3.0%	3.4%	5.5%	4.9%	2.2%	1.6%	1.4%	0.9%	44
Bottom Trawls in the W Scotland to Blue ling	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
Bottom Trawls in the W Scotland to Deep species	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	5
Bottom Trawls in the W Scotland to 'Mixed species in the slope	1.2%	2.4%	2.2%	1.6%	0.8%	0.5%	0.5%	0.6%	20
Bottom Trawls in the W Scotland to 'Mixed species in the deep waters'	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	1
Bottom Trawls in the W Scotland to Other species	0.2%	0.7%	0.0%	0.6%	0.4%	0.2%	0.8%	0.0%	1
Bottom Trawls in the North Sea to Saithe	0.5%	0.5%	0.4%	0.3%	0.2%	0.2%	0.3%	0.4%	67
Bottom Trawls in the North Sea to Gadoids (except saithe)	11.2%	6.1%	19.5%	8.8%	5.8%	21.2%	4.6%	7.3%	504
Bottom Trawls in the North Sea to Sole	1.8%	1.6%	2.6%	0.0%	0.0%	0.0%	0.0%	5.9%	1
Bottom Trawls in the North Sea to Other species	4.8%	2.2%	9.0%	1.8%	2.5%	3.3%	3.2%	5.1%	59
Bottom Trawls in the E Channel to Gadoids	10.6%	5.8%	12.1%	5.2%	3.3%	4.6%	5.7%	9.0%	739
Bottom Trawls in the E Channel to Sole	1.7%	0.4%	0.8%	0.3%	0.1%	0.1%	0.2%	0.7%	4
Bottom Trawls in the E Channel to Other species	2.5%	1.4%	2.5%	1.3%	0.8%	1.0%	1.0%	2.2%	249
Nets in the Celtic Sea to Anglerfish	0.5%	0.4%	0.4%	0.4%	0.3%	0.2%	0.3%	0.2%	10
Nets in the Celtic Sea to Hake	0.1%	0.8%	0.9%	0.4%	0.2%	0.5%	0.5%	1.1%	24
Nets in the Celtic Sea to Sole	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0
Nets in the Celtic Sea to Other species	0.5%	0.5%	0.5%	0.6%	0.2%	0.2%	0.3%	0.3%	11

Nets in the W Scotland to Anglerfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
Nets in the W Scotland to ‘Hake’	9.2%	0.4%	17.1%	6.9%	0.0%	9.6%	4.7%	1.5%	12
Nets in the W Scotland to Other species (deep sharks)	0.0%	0.1%	0.0%	0.0%	1.0%	2.1%	1.5%	0.8%	1
Nets in the North Sea to Sole	6.4%	4.6%	4.2%	4.6%	1.9%	1.1%	2.4%	4.1%	28
Nets in the North Sea to Gadoids	64.1%	22.1%	71.7%	63.2%	54.3%	37.5%	69.1%	64.9%	74
Nets in the North Sea to Other species	7.8%	5.3%	11.7%	17.4%	4.9%	3.5%	5.1%	8.0%	14
Nets in the E Channel to Sole	4.9%	3.1%	2.8%	3.8%	1.4%	1.0%	1.2%	2.4%	52
Nets in the E Channel to Gadoids	71.2%	65.7%	63.2%	65.0%	51.0%	51.5%	60.2%	60.7%	392
Nets in the E Channel to Other species	5.6%	4.2%	3.2%	6.0%	2.3%	1.9%	2.8%	3.5%	48

Table 2 shows the assumed correspondence between the metiers and the gear group and special conditions of Annex IIa.

Métier	Gear	Mesh size	Gear group	Special Condition
Bottom Trawls in the Celtic Sea to Benthic species	TD	100	nd	nd
Bottom Trawls in the Celtic Sea to Gadoids species	TD	100	nd	nd
Bottom Trawls in the Celtic Sea to Nephrops	TD	100	nd	nd
Bottom Trawls in the Celtic Sea to Other species	TD	?	nd	nd
Bottom Trawls in the W Scotland to Saithe	TD	100	4.a.iv	8.1.(d)
Bottom Trawls in the W Scotland to 'Mixed species in the shelf'	TD	100	4.a.iv	?
Bottom Trawls in the W Scotland to Blue ling	TD	100	4.a.iv	8.1.(d)
Bottom Trawls in the W Scotland to Deep species	TD	100	4.a.iv	8.1.(d)
Bottom Trawls in the W Scotland to 'Mixed species in the slope	TD	100	4.a.iv	8.1.(d)
Bottom Trawls in the W Scotland to 'Mixed species in the deep waters'	TD	100	4.a.iv	8.1.(d)
Bottom Trawls in the W Scotland to Other species	TD	100	4.a.iv	8.1.(d)
Bottom Trawls in the North Sea to Saithe	TD	110	4.a.iv	8.1.(d)
Bottom Trawls in the North Sea to Gadoids (except saithe)	 TD	70-89 90-99	4.a.ii 4.a.iii	no no
Bottom Trawls in the North Sea to Sole	TD	70-89	4.a.ii	8.1.(c)
Bottom Trawls in the North Sea to Other species	TD	70-89	4.a.ii	no
Bottom Trawls in the E Channel to Gadoids	 TD	70-89 90-99	4.a.ii 4.a.iii	no no
Bottom Trawls in the E Channel to Sole	TD	70-89	4.a.ii	8.1.(c)
Bottom Trawls in the E Channel to Other species	TD	70-89	4.a.ii	8.1.(c)
Nets in the Celtic Sea to Anglerfish	GE	>220	nd	nd
Nets in the Celtic Sea to Hake	GE	110	nd	nd
Nets in the Celtic Sea to Sole	GE	100	nd	nd
Nets in the Celtic Sea to Other species	GE	?	nd	nd

Nets in the W Scotland to Anglerfish	GE	>220	4.c.iv	8.1.(f)
Nets in the W Scotland to ‘Hake’	GE	110	4.c.ii	no
Nets in the W Scotland to Other species (deep sharks)	GE	160	4.c.iii	no
Nets in the North Sea to Sole	TR	90	4.d	no / 8.1.(g)
Nets in the North Sea to Gadoids	GE	120	4.c.ii	no
Nets in the North Sea to Other species	GE TR	 100	4.c.i 4d	no / 8.1.(g) no / 8.1.(g)
Nets in the E Channel to Sole	TR	90	4.d	no / 8.1.(g)
Nets in the E Channel to Gadoids	GE	120	4.c.ii	no
Nets in the E Channel to Other species	GE TR	 100	4.c.i 4d	no / 8.1.(g) no / 8.1.(g)

16. ANNEX-EXPERT DECLARATIONS

Declarations of invited experts are published on the STECF web site on https://stecf.jrc.ec.europa.eu/home together with the final report.

European Commission

EUR 24369 EN – Joint Research Centre – Institute for the Protection and Security of the Citizen
Title: Scientific, Technical and Economic Committee for Fisheries. Report of the SGMOS-09-05 Working Group on Fishing Effort Regimes in relation to Annex IIA-C and the Celtic Sea.
Author(s): Bailey N., Vanhee W., Davie S., Barratt K., Ulrich Rescan C., Silva C., González Herraiz I., Holmes S., Williamson K., Jardim E., Reeves S., Kempf A., Lövgren J., Coppin F., Vermand Y., Vérin Y., Stockhausen, B., Rätz H.-J.

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Abstract
SGMOS-09-05 meeting was held on 28 September - 2 October 2009 in Barza d' Ispra (Italy). This Section of the report covers the analyses in relation to Annex IIA-C of the annual TAC and Quota regulations and the Celtic Sea and provides fleet specific trends in catch (including discards), nominal effort and catch (landings) per unit of effort in order to advise on fleet specific impacts on stocks under multiannual management plans. STECF reviewed the report during its 2010 plenary meeting in April 2010.

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