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# **Some technical guidance towards national fleet specific fishing effort and catch data aggregation**

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## **Introductory notes**

The following guidance towards fleet specific fishing effort and catch data aggregation has been compiled in order to enhance and support international data calls recently issued by EU-COM DG MARE and scientifically evaluated by its Scientific, Technical and Economic Committee for Fisheries (STECF-SGRST). The format of the most recent data call in 2008 is attached as Annex I. Recommendations are based on the experience gained during various STECF-SGRST meetings on the assessment of fishing effort regime and recent years when German national data were aggregated in the Johann Heinrich von Thünen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries, Institute for Sea Fisheries, Hamburg, Germany.

As the relevant national fisheries data bases are assumed to be extensive, it is recommended to use specific data base programs for the data manipulations required. The STECF subgroup SGRST on the assessment of fishing effort regime applied SQL coding using Microsoft Access.

The recommendations for data aggregation are given in generic formats as the national data bases are assumed to be different. National data base specifics should not imply significant deviations from the recommendations to be followed in the order given below. However, the requested data aggregations should be allowed the appropriate expertise and working time as they require careful and precise data base querying and programming. Close cooperation between the national control and enforcement institutes and scientific fisheries institutes is advised.

The recommendations for data aggregation are dealing with three different data bases, namely:

1. Fishing effort data for kW\*days at sea, GT\*days at sea and number of vessels (effort data base "B" called by EU-COM DG MARE and defined by STECF-SGRST)
2. Landings and discards data (catch data base "A" called by EU-COM DG MARE and defined by STECF-SGRST)
3. Specific fishing effort data by rectangle (effective effort data base "C" called by EU-COM DG MARE and defined by STECF-SGRST)

## **1 Fishing effort data for kW\*days at sea, GT\*days at sea and number of vessels (effort data base “B” called by EU-COM DG MARE and defined by STECF-SGRST)**

1.1 Create from logbook data base (haul by haul) for all vessels  $\geq 10\text{m}$  a data base “B1” which also holds critical vessel and capacity parameters by linking the log book data to a vessel register data base. At the minimum, the following parameters need to be present in the haul specific data base “B1”:

- Vessel ID (EU Reg. No. or in a coded unique version)
- kW of the vessel
- GT of the vessel (Gross Tonnage since 2003)
- Trip ID (trip no.)
- Haul ID (haul no.)
- Trip specific leave port ID
- Date of leave (YYYYMMDD)
- Trip specific return (landings) port ID
- Date of return (YYYYMMDD)
- Date of the haul (YYYYMMDD)
- Area in which the haul was conducted (ICES Div.)
- Zone in which the haul was conducted (EU waters or outside, i.e. other EEZs or waters of regional fisheries organizations)
- Gear type used for the haul
- Mesh size used for the haul (where applicable)

1.2 Assign each individual haul record of the effort data base “B1” according to the codification given in the data call a

- year
- quarter
- area (Div.)
- gear type
- mesh size (where applicable)

Specify the fields of area, gear type and mesh size to -1 if unknown.

1.3 Prove and assign the individual vessels ( $\geq 10\text{m}$ ) identified by register number an exemption code (=exempted) for any combination of area (Div.), gear type, mesh size in accordance with the criteria laid down in Article 11, Article 13 and Annex I of the revised cod long term plan. (Previously, the “special conditions” of individual vessels defined in earlier TAC and Quota Regulations were assigned at this step.)

1.4 Assign each haul of each trip of each vessel for any combination of area (Div.), gear type, mesh size an exemption code (=exempted) according to Article 11, Article 13 and Annex I of the revised cod long term plan. (Previously, the “special conditions” of individual vessels defined in earlier TAC and Quota Regulations were assigned at this step.)

1.5 Assign each haul also a fishery ID if national codifications exist.

1.6 Creation of effort data base “B2” (day specific) from effort data base “B1” (haul specific): aggregate all hauls over individual active fishing days and create data base “B2”. This implies assignment of each active day (fishing day) of each trip of each vessel a unique

- year
- quarter
- area (Div)
- gear type

- mesh size (where applicable)
- and exemption code (previously special condition)

according to the codification given in the data call. Assign also fishery if national codifications exist. This is critical, as it should be done according to the “dominant” fishing activity during the individual day. A practical solution maybe to assign the fishing day according to the parameters of the first haul conducted during an individual day. As a result, the effort data base “B2” is rather specific for individual fishing days rather than hauls.

1.7 Expand the effort data base “B2” to have one record for each calendar day at sea of a vessel and trip including all inactive days (link the data base to a calendar). This action includes the day of departure from port to the day of the first haul (steaming days and bad weather days included, excluding security days), to the day of the last haul (covering all active and inactive days, excluding security days), to the day of return to any harbour where the trip terminated (steaming days and bad weather days included, excluding security days). Ensure that one day trips are recorded as one single day (leave and return days are the same). Trips of vessels entering the areas defined in the data call from outside and returning to a port inside the areas defined should start on the day when they enter such defined areas, if they have been active in the defined areas during that individual trip. Trips of vessels leaving the areas defined in the data call and not returning to port inside the areas defined should end on the day when they leave such defined areas, if they have been active in the defined areas during that individual trip.

1.8 Assign all inactive days at sea of each trip of each vessel according to the codification given in the data call a:

- year
- quarter
- area (Div)
- gear type
- mesh size (where applicable)
- and exemption code (previously special condition)

Assign also fishery if national codifications exist. A practical solution could be to assign the inactive days at sea between departure and first active day according to the parameters of the first active day. Inactive days at sea within the fishing period can be assigned according to the parameters of the next active day. Inactive days at sea between the last active day and day of return can be assigned according to the parameters of the last active day.

1.9 Calculation of kW\*days at sea, GT\*days at sea and number of vessels from effort data base “B2”: Aggregate (sum) all kW and GT and (count) the vessels for each combination of year, quarter, area (Div.), gear type, mesh size and exemption code (previously special condition) and fishery group according to the codification given in the data call. Such aggregation should be saved and represent the requested national fishing effort data base “B”. (Consider also vessel ID as aggregation variable if vessel specific data are called as defined in Article 12(3a) of the revised cod long term plan).

## **2 Landings and discards data (catch data base “A” called by EU-COM DG MARE and defined by STECF-SGRST)**

2.1 Create from logbook data base (haul by haul) for all vessels  $\geq 10\text{m}$  a data base “A” which includes, at the minimum, the following parameters:

- Vessel ID (EU Reg. No. or in a coded unique version)
- Trip ID (trip no.)
- Haul ID (haul no.)
- Date of the haul (YYYYMMDD)
- Area in which the haul was conducted (ICES Div.)
- Zone in which the haul was conducted (EU waters or outside, i.e. other EEZs or waters of regional fisheries organizations)
- Gear type used for the haul
- Mesh size used for the haul (where applicable)
- Species caught in the haul
- Weight of the landings by species (kg)

2.2 Assign each individual haul record of the catch data base “A” according to the codification given in the data call a

- year
- quarter
- area (Div.)
- gear type
- mesh size (where applicable)
- exemption code (previously called special condition)
- species

The parameters of the individual hauls can be adopted using a link with the first version of fishing effort data base “B1” (haul specific), using the Vessel ID, Haul ID and Date of the individual haul. Specify the fields of area, gear type and mesh size and exemption code (previously special condition) to -1 if unknown.

2.3 Assign each haul also a fishery ID if national codifications exist.

2.4 Assign the biological data from observer trips (discards, sample nos., age composition in the landings and mean weight and mean length at age in the landings, age composition in the discards and mean weight and mean length at age in the discards) the same coding as applied under 2.2 and 2.3 specified in the data call.

2.5 Estimate the number of biological samples and min. and max. ages represented for landings and discards and specify the results in the relevant data base fields of the biological data base.

2.6 Link the catch data base “A” with the biological data base by haul according to Vessel ID, Haul ID, Date of the haul and species.

2.7 Assure the raising of all biological data on discards and age compositions of landings and discards to the haul specific landings given in catch data base “A”. Convert the weights of landings and discards to tonnes and the landings and discards at age to units of thousands. Perform a sum of product check (sum of all products of numbers at age \* weight at age and delete or correct unreasonable values (should be close to the overall weight of landings and discards). Replace all biological data (discards, age compositions, mean length and weights at age) with -1 if no data available.

2.8 Aggregate (sum) landings and discards of the individual hauls over each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species according to the codification given in the data call and where discard information is available, including zeros (no discard information available is indicated by -1). Estimate an average discard rate of the total catch (landings plus discards) for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species and replace discard weights where no discard data are available (-1) with the estimated average discard estimation in relation to the landings weight. Any other discard estimation applied for non-sampled hauls should be explained.

2.9 Aggregate (sum) landings and landings composition at age for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species where landings compositions at age are available (ignore -1 cases). Replace the landings at ages of each haul where no data are available (-1) with the estimated age composition raised to the landings weight.

2.10 Aggregate (average) mean length and weights at age of landings for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species where such data are available (ignore -1 cases). Replace mean length and weights at age of landings with the estimated mean length and weights at age for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species where such data are missing.

2.11 Aggregate (sum) discards and discards composition at age for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species where discards compositions at age are available (ignore -1 cases). Replace the discards at ages of each haul where no data are available (-1) with the estimated age composition raised to the discards weight.

2.12 Aggregate (average) mean length and weights at age of discards for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species where such data are available (ignore -1 cases). Replace mean length and weights at age of discards with the estimated mean length and weights at age for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species where such data are missing.

2.13 Aggregate (sum) landings, discards, number of samples, landings composition at age in the landings and discards and aggregate (average) mean length and mean weights for each combination of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species (ignore -1 cases). (Consider also vessel ID as aggregation variable if vessel specific data are called as defined in Article 12(3a) of the revised cod long term plan).

This should finally lead to unique sampled and non-sampled cases of fleet combinations of year, quarter, area (Div.), gear type, mesh size, exemption code (previously special condition), fishery group and species quantified by the parameters requested in the data call for the catch data base "A".

### **3 Specific fishing effort data by rectangle (effective effort data base “C” called by EU-COM DG MARE and defined by STECF-SGRST)**

3.1 Create from logbook data base (haul by haul) for all vessels  $\geq 10\text{m}$  a data base “C”. At the minimum, the following parameters need to be present in the haul specific data base “C”:

- Vessel ID (EU Reg. No. or in a coded unique version)
- Trip ID (trip no.)
- Haul ID (haul no.)
- Date of the haul (YYYYMMDD)
- Effective effort: duration of effective fishing of each haul, (hh.dd, h=hours, dd=minutes in decimals, only for active gears)
- Area in which the haul was conducted (ICES Div.)
- Zone in which the haul was conducted (EU waters or outside, i.e. other EEZs or waters of regional fisheries organizations)
- ICES Rectangle in which the haul was conducted
- Gear type used for the haul
- Mesh size used for the haul (where applicable)

Restrict the data base “C” to only the active gears of beam trawls, trawls, Danish seines and similar gears.

Restrict the data base “C” to all ICES Div. and functional units included in Sub-areas II to X.

3.2 Assign each individual haul record of the effort data base “C” according to the codification given in the data call a

- year
- quarter
- area (Div.)
- gear type
- mesh size (where applicable)
- exemption code (previously called special condition)

All this information can be easily adopted by a link to the haul specific data base “B1” using the appropriate data fields Vessel ID, Trip ID, Haul ID with unique records. Specify the fields of area, gear type and mesh size and exemption code (previously called special condition) to -1 if unknown.

This data base “C” then represents the data called.



Annex I. Format of the latest fleet specific fishing effort and catch data call issued by the European Commission, DG Mare, 24 April 2008.

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.

Necessary changes to former (last year's) formats are highlighted in red.

A. Mandatory Catch data for 2003-2007 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. SPECICON 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. Mandatory effort data for 2000-2007, 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. 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)
6. 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)
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)
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. NOMINAL\_EFFORT (effort should be given in kWdays, i.e. engine power in kW times days at sea; if nominal effort is not available, "-1" should be given)
11. 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)
12. 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)
13. GT\_DAYS\_AT\_SEA (effort should be given in gross tonnage \* days at sea; if the number is not available, "-1" should be given).
14. NO\_VESSELS (simple integer value of vessels, if the number is not available, "-1" should be given).

## C. Specific effort data by rectangle for 2003-2007 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. 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). Consider only BEAM, OTTER, DEM\_SEINE !!!
6. 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)
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)
8. AREA (the ICES division or sub-area should be given according to the code list provided in Appendix 4). Consider only ICES Divisions 2-10!!!
9. SPECON to be specified in accordance with Appendix 5, text string of maximum 10 characters
10. RECTANGLE (text, 4 letters like 44F6)
11. 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	POR
Spain	SPN
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
<b>Mobile gears</b>	Beam trawl		BEAM
	Demersal trawl & demersal seine	Bottom trawl	OTTER
		Danish & Scottish seiners	DEM_SEINE
	Pelagic trawl & Seiners	Pelagic Trawl	PEL_TRAWL
		Pelagic seiner & purse seiner	PEL_SEINE
Dredges		DREDGE	
<b>Passive gears</b>	Longlines		LONGLINE
	Drift & fixed Nets except Trammel Nets		GILL
	Trammel Nets		TRAMMEL
	Pots & traps		POTS

Appendix 3 Mesh size coding

Gear type	Mesh size range
<b>Mobile gears</b>	<16
	16-31
	32-54
	55-69
	70-79
	80-89
	90-99
	100-119
	>=120
<b>Passive gears</b>	10-30
	31-49
	50-59
	60-69
	70-79
	80-89
	90-99
	100-109
	110-149
	150-219
	>=220

## Appendix 4 Area coding by WG, ICES Division and IBSFC areas for Baltic

### **North Sea, Skagerrak, Kattegat and Eastern Channel**

2 EU

3an

3as

4

6an

7d

### **Northern Shelf**

~~2~~

~~3a~~

5a

5b

6a

6b

7a

### **Southern Shelf**

7b

7c

7e

7f

7g

7h

7j

7k

8a

8b

8c

8d

8e

9a

9b

10

### **CECAF**

34.1.1

34.1.2

34.2.0



Appendix 5 Coding of special conditions for the derogations listed in Council Regulation 41/2007, Annexes IIA, IIB and IIC

Annex IIA:

IIA81a  
IIA81b  
IIA81c  
IIA81d  
IIA81e  
IIA81f  
IIA81g  
IIA81h  
IIA81i  
IIA81j  
IIA81k  
IIA81l  
IIA81hj

Annex IIB:

IIB71a  
IIB71ab

Annex IIC:

No more special conditions!

Appendix 6 Species coding according to Council Regulation (EC) No. 2298/2003

	Common name	Alpha-3 code	Scientific name
1	Albacore	ALB	<i>Thunnus alalunga</i>
2	Alfonsinos	ALF	<i>Beryx</i> spp.
3	American plaice	PLA	<i>Hippoglossoides platessoides</i>
4	Anchovy	ANE	<i>Engraulis encrasicolus</i>
5	Anglerfish	ANF	Lophiidae
6	Antarctic icefish	ANI	<i>Champscephalus gunnari</i>
7	Atlantic catfish	CAT	<i>Anarhichas lupus</i>
13	Atlantic halibut	HAL	<i>Hippoglossus hippoglossus</i>
10	Atlantic salmon	SAL	<i>Salmo salar</i>
10	Basking shark	BSK	<i>Cetorhinus maximus</i>
11	Bigeye tuna	BET	<i>Thunnus obesus</i>
12	Birdbeak dogfish	DCA	<i>Deania calcea</i>
13	Black scabbardfish	BSF	<i>Aphanopus carbo</i>
14	Blackfin icefish	SSI	<i>Chaenocephalus aceratus</i>
15	Blue ling	BLI	<i>Molva dypterigia</i>
16	Blue marlin	BUM	<i>Makaira nigricans</i>
17	Blue whiting	WHB	<i>Micromesistius poutassou</i>
18	Bluefin tuna	BFT	<i>Thunnus thynnus</i>
19	Capelin	CAP	<i>Mallotus villosus</i>
20	Cod	COD	<i>Gadus morhua</i>
21	Common sole	SOL	<i>Solea solea</i>
22	Common shrimp	CSH	<i>Crangon crangon</i>
23	Crab	PAI	<i>Paralomis</i> spp.
24	Dab	DAB	<i>Limanda limanda</i>
25	Flatfish, flounder	FLX	Pleuronectiformes, <i>Platichthys flesus</i>
26	Forkbeards	FOX	<i>Phycis</i> spp.
27	Greater silver smelt	ARU	<i>Argentina silus</i>
28	Greenland halibut	GHL	<i>Reinhardtius hippoglossoides</i>
29	Grenadier	GRV	<i>Macrourus</i> spp.
30	Great lantern shark	ETR	<i>Etmopterus princeps</i>
31	Grey rockcod	NOS	<i>Lepidonotothen squamifrons</i>
32	Haddock	HAD	<i>Melanogrammus aeglefinus</i>
33	Hake	HKE	<i>Merluccius merluccius</i>
34	Herring	HER	<i>Clupea harengus</i>
35	Horse mackerel	JAX	<i>Trachurus</i> spp.
36	Humped rockcod	NOG	<i>Gobionotothen gibberifrons</i>
37	Kitefin shark	SCK	<i>Dalatias licha</i>
38	Krill	KRI	<i>Euphausia superba</i>
39	Lantern fish	LAC	<i>Lampanyctus achirus</i>
40	Leafscale gulper shark	GUQ	<i>Centrophorus squamosus</i>
41	Lemon sole	LEM	<i>Microstomus kitt</i>
42	Ling	LIN	<i>Molva molva</i>
43	Mackerel	MAC	<i>Scomber scombrus</i>
44	Marbled rockcod	NOR	<i>Notothenia rossii</i>
45	Megrim	LEZ	<i>Lepidorhombus</i> spp.
46	Northern prawn	PRA	<i>Pandalus borealis</i>
47	Norway lobster	NEP	<i>Nephrops norvegicus</i>
48	Norway pout	NOP	<i>Trisopterus esmarki</i>
49	Orange roughy	ORY	<i>Hoplostethus atlanticus</i>

50	'Penaeus' shrimps	PEN	Penaeus spp
51	Plaice	PLE	Pleuronectes platessa
52	Polar cod	POC	Boreogadus saida
53	Pollack	POL	Pollachius pollachius
54	Porbeagle	POR	Lamna nasus
55	Portuguese dogfish	CYO	Centroscymnus coelolepis
56	Redfish	RED	Sebastes spp.
57	Red Seabream	SBR	Pagellus bogaraveo
58	Roughead grenadier	RHG	Macrourus berglax
59	Roundnose grenadier	RNG	Coryphaenoides rupestris
60	Saithe	POK	Pollachius virens
61	Sandeel	SAN	Ammodytidae
62	Seabass	BSS	Dicentrarchus labrax
63	Short fin squid	SQI	Illex illecebrosus
64	Skates	SRX	Rajidae
65	Rays	RAJ	Rajidae
66	Smooth lantern shark	ETP	Etmopterus pusillus
67	Snow crab	PCR	Chionoecetes spp.
68	South Georgian icefish	SGI	Pseudochaenichthys georgianus
69	Spanish ling	SLI	Molva macrophthalmus
70	Sprat	SPR	Sprattus sprattus
71	Spurdog	DGS	Squalus acanthias
72	Swordfish	SWO	Xiphias gladius
73	Toothfish	TOP	Dissostichus eleginoides
74	Tope shark	GAG	Galeorhinus galeus
75	Turbot	TUR	Psetta maxima
76	Tusk	USK	Brosme brosme
77	Unicorn icefish	LIC	Channichthys rhinoceratus
78	Velvet belly	ETX	Etmopterus spinax
79	White marlin	WHM	Tetrapturus alba
80	Whiting	WHG	Merlangius merlangus
81	Witch flounder	WIT	Glyptocephalus cynoglossus
82	Yellowfin tuna	YFT	Thunnus albacares
83	Yellowtail flounder	YEL	Limanda ferruginea
84	Lumpsucker	LUM	Cyclopterus lumpus

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**Abstract**

The guidance towards fleet specific fishing effort and catch data aggregation has been compiled in order to enhance and support international data calls recently issued by EU-COM DG MARE and scientifically evaluated by its Scientific, Technical and Economic Committee for Fisheries (STECF-SGRST). The recommendations for data aggregation are given in generic formats as the national data bases are assumed to be different. National data base specifics should not imply significant deviations from the recommendations to be followed in the order given. Close cooperation between the national control and enforcement institutes and scientific fisheries institutes is advised.

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