## RDBES CE (Commercial Effort) and CL (Commercial Landings) data formats

These data formats are collecting aggregated data from national commercial fisheries. It allows for both official and scientific estimates of landings and effort. The RDBES should make it possible to use the data to populate the future ICES data call and preferably also the STECF FDI data call

Below is a description on how to fill in fields in the two tables, where it is not obvious.

### Fields in CL data format (Commercial Landings)

**Data sources:** In the dataset, it is possible to give the official weight and a scientific weight. The scientific weight could e.g. be estimates for the small-scale fisheries based on sampling. To make it transparent, it has been made possible to add information on data sources in the data format. Data should not be duplicated, meaning that there should only be given one estimate on the scientific weight, which can be based either on official data or sampling data. The data source for the landings value is also included in the data format. The data sources are given in four fields:

* *Data type of scientific weight*: The scientific weight can be based on either official data or data based on estimates. This field can be filled in with ”Official data if data are based on official data like logbooks, sales notes or other declarative forms or “Estimate” if it is based on sampled data.
* *Data source of scientific weight*: The data source of the scientific weight can be set to “Logbook”, “Sales notes”, Other declarative forms”, “Combination of official data” or “Sampling data”.
* *Sampling scheme behind scientific weight*: If sampling data are used to estimate the scientific weight, it should preferable be specified from the *Sampling scheme*. The national options of sampling from the *Sampling scheme* are maintained in a code list in the RDBES.
* *Data source landings value*: The value of the landings (Euro) can be obtained from different sources: “Sales notes” if they are derived directly from sales notes”, “Average prices”, “Combination of sales notes and average prices” or “Other” if the value of the landings are estimated from other sources.

**Landing category and Catch category**: The landing category indicates the intended usage of the landing while the catch category indicates the possible fractions of the catch:

* *Landing category*: Can be set to Industry (Ind), human consumption (HuC) or None for logbook registered discards.
* *Catch category*: This field should match the Catch category field from sampling data, but only includes the relevant codes: “Lan” for landings above minimum reference size, “RegDis” for logbook registered discards and “BMS” for landings below minimum reference size.

**Landings weight and value:** In the data format the both the official and a scientific landings weight are included, and there is a field to indicate reason for the difference, if they are not equal.

* *Official weight*: The live weight in kg from official data.
* *Scientific weight*: Live weight in kg which might include scientific estimates. This can be the same as the official weight.
* *Explain difference*: If there is a difference between the official weight and the scientific weight, it should be explained in this field. The field can be set to “Sample data” if sampling data are used to correct the official weights, “Unallocated catches” if there is knowledge about unallocated catches, “Area misreporting” if e.g. VMS data indicates fishing in another area than officially reported or “Correction for overweight in boxes” if sampling data indicates overweight in boxes.
* *Total landings value*: Sales value in Euro of the field official weight 'CLofficialWeight'. If nessesary the estimated value can be reported. Please report the data source in the field 'CLdataSourceOfScientificWeight'. If logbook registered discards, put NA..

**Uncertainty indicators of estimated landings:** Where estimates are given, there should also be an uncertainty indicator, which has been made possible in the data format:

* *Landings RSE*: The Relative Standard Error should be given if the weight of landings is estimated. If official data are used, it should be set to NA.
* *Value RSE*: The Relative Standard Error should be given if the value of the landings is estimated. If official data are used, it should be set to NA.
* *Qualitative bias*: If a quantitative RSE is not possible, a semi‐quantitative scale ranging from +++ (large overestimate) to −−− (large underestimate) can be used as in Hyder et al 2017. If the weight of landings is based on official data, use NA.

### Fields in CE data format (Commercial Effort)

The data format has been updated from the RDB to follow recommendations on effort calculations from the 2nd Workshop on Transversal Variables in Nicosia.

**Data sources:** In the dataset, it is possible to give both official and a scientific effort estimates. The scientific effort could be an estimate of the small-scale fishery based on sampling data, or it could be the official effort adjusted with e.g. VMS data. To make it transparent, it has been made possible to add information on data sources in the data format. Data should not be duplicated. The data sources are given in three fields:

* *Data type for scientific effort*: To be able to distinguish if data are based on official data (e.g. logbooks, sales notes, declarative forms) or it is estimates based on sampling (this could be the case for small-scale fisheries), the data type can be set to either “Official” or “Estimate”.
* *Data source of scientific effort*: The source of the data can be set to “Logbook”, “Sales notes”, “Other declarative forms”, “Combination of official data” or “Sampling data”.
* *Sampling scheme behind scientific effort*: If sampling data are used to estimate the scientific effort, it should preferable be specified from the *Sampling scheme*. The national options of sampling from the *Sampling scheme* are maintained in a code list in the RDBES.

**Number of trips**: A trip is defined as the period between a vessel departs from a port (or factory ship) and arrives at a port (or factory ship). In the case of small-scale fisheries, one landing can equal one day at sea. The number of trips are reported as both:

* Number of fraction trips: If a trip covers more than one aggregation level of the primary key, it should be split up to the primary key according to effort, following the principles agreed on the 2nd Workshop on Transversal Variables on splitting up days at sea. This field makes it possible to split the effort in the areas where there was fished.
* Number of dominant trips: The trip is assigned to the dominant aggregation within the primary key (month, métier, ICES rectangle etc.) within the trip. This field will ensure one trip only contribute with 1 to the number of (dominant) trips.

The two fields are complementary. The sum of each field should be the same when aggregated over all areas and time, it is just a way to split the effort.

A simple illustrative example of these concepts is a 3-day fishing trip using the same active gear in two different statistical rectangles. The total number of days at sea for this trip is 3, with 2 of those days having fishing activity taking place:

Table 1 Fishing effort per day for a single trip

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Day** | **Area** | **Rectangle** | **Metier** | **Fishing Time (hours)** |
| 1 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 5 |
| 2 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 2 |
| 2 | 27.7.g | 31E3 | OTB\_DEF\_70-99\_0\_0 | 3.5 |
| 3 | No fishing activity | | | |

We calculate the values for Days at Sea and Fishing Days for each fishing date according to the principles in Annex 5 of “Report on the 2nd workshop on transversal variables”. In the following tables FD stands for Fishing Date, whilst GA stands for GearArea, in line with the transversal report.

First the Days at Sea are calculated for each fishing date (remembering the trip has a total of 3 days at sea):

Table 2 Days at sea calculation

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Day** | **Area** | **Rectangle** | **Metier** | **FDprop** | **Number of GAs on that date** | **GAprop** | **GAFDprop** | **Days at Sea** |
| 1 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 0.5 | 1 | 1 | 0.5 | 1.5 |
| 2 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 0.5 | 2 | 0.5 | 0.25 | 0.75 |
| 2 | 27.7.g | 31E3 | OTB\_DEF\_70-99\_0\_0 | 0.5 | 2 | 0.5 | 0.25 | 0.75 |

Then the Fishing Days are calculated (remembering we only have active gear used on this trip):

Table 3 Fishing days calculation

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Day** | **Area** | **Rectangle** | **Metier** | **Number of active GAs on that date** | **GAeffort (active)** | **GAeffort (passive)** | **Fishing Days** |
| 1 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 1 | 1 | 0 | 1 |
| 2 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 2 | 0.5 | 0 | 0.5 |
| 2 | 27.7.g | 31E3 | OTB\_DEF\_70-99\_0\_0 | 2 | 0.5 | 0 | 0.5 |

The number of Fractional Trips is calculated for each row as the proportion of the total Days at Sea it contributes (this is equal to the value of GAFDprop in our calculation of Days at Sea):

Table 4 Number of fractional trips calculation

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Day** | **Area** | **Rectangle** | **Metier** | **GAFDprop** | **Days at Sea** | **Number of Fractional Trips** |
| 1 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 0.5 | 1.5 | 0.5 |
| 2 | 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 0.25 | 0.75 | 0.25 |
| 2 | 27.7.g | 31E3 | OTB\_DEF\_70-99\_0\_0 | 0.25 | 0.75 | 0.25 |

Note that the sum of the number of fractional trip values is equal to 1 since we are considering a single trip.

Now we can aggregate the fishing effort by area, rectangle, and métier and also calculate the number of dominant trips – the row with the most Days at Sea now has the value of 1 for the number of dominant trips. Only a single row within the trip can be allocated as the dominant trip – if you have multiple rows with the same value for days at sea then you should use a consistent method to break the tie e.g. use the tied row with the highest value for fishing days or fishing time as the dominant trip.

Table 5 Fishing effort for example trip aggregated by area, rectangle, and metier

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Statistical Rectangle** | **Metier** | **Fishing Time (hours)** | **Days at Sea** | **Fishing Days** | **Number of Fractional Trips** | **Number of Dominant Trips** |
| 27.7.g | 32E2 | OTB\_DEF\_70-99\_0\_0 | 7 | 2.25 | 1.5 | 0.75 | 1 |
| 27.7.g | 31E3 | OTB\_DEF\_70-99\_0\_0 | 3.5 | 0.75 | 0.5 | 0.25 | 0 |

Note that sum of the number of fractional trips equals the sum of the number of dominant trips (in this example 1).

For full details of the calculations for days at sea and fishing days please read Annex 5 from the “Report on the 2nd workshop on transversal variables, Nicosia, Cyprus, 22-26 February 2016 : a DCF ad-hoc workshop” <https://op.europa.eu/en/publication-detail/-/publication/8c5583fa-c360-11e6-a6db-01aa75ed71a1>

**Effort measures:** A number of effort measures: Days at Sea, Fishing Days, Number of hauls/sets, Vessel fishing hours, Soaking meter hours, kW Days at Sea, kW Fishing Days, kW Fishing Hours can be reported with both Official and Scientific values. They can be equal, but in some cases scientific estimates can be reallocated (e.g. based on VMS data), or in the case of small scale fisheries, they can be based on other data sources.

The Soaking meter hours is used for passive gears as the total meters of net multiplied with the number of hours the gear is fishing. The field is optional, as it is not always known.

The Vessel fishing hours is used for active gears, but can also be used for the handling of passive gears. It is an optional field that can be based on logbook registrations, or VMS data.

The official data on Soaking meter hours, Vessel fishing hours and Number of hauls/sets might be only partially informed (especially for vessels under 10 meters that does not have logbooks with start and end time and is sometimes not filled in), but the scientific estimates should be for the full aggregation level. Information from VMS/AIS, sampling programmes and questionnaires might help informing the variables.

**Number of unique vessels:** Number of the active unique vessels within the aggregation level. The sum of unique vessels will be much higher than the actual number of unique vessels for the country, because one vessel can be counted many times if fishing in several months, statistical rectangles etc. This number should not aggregated, but can be used to know if data are confidential (individual vessels can be identified) or can published.

**Uncertainty indicators of estimated effort:** Where estimates are given, there should also be an *uncertainty indicator, which has been made possible in the data format:*

* *Effort RSE*: Relative Standard Error of the estimated effort. For official data: NA.
* *Qualitative Bias*: For estimated data, a semi‐quantitative scale ranging from +++ (large overestimate) to −−− (large underestimate) can be used as in Hyder et al 2017.

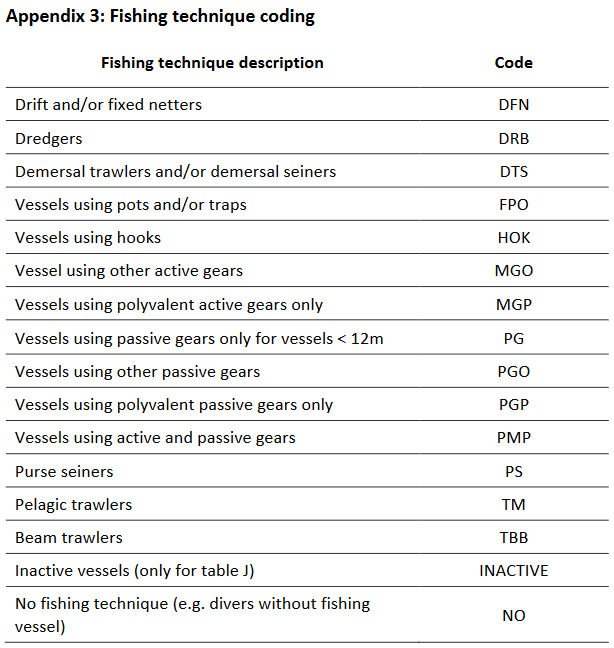
### Common fields for CE and CL data

This describes some fields that have been added in both the CL and CE data formats:

**Exclusive Economic Zone Indicator (EEZI):** Indicating if the landings are from EU waters (EU), International waters (RFMO) or non-EU coastal waters (COAST) this field can enable the data to be exported for the EU FDI data call in the future.

**Incidental by-catch mitigation device**: These can be coded as “Sorting grid”, “Functional pingers”, “Seal extruder device” and “Turtle extruder device”, “Unknown” or “None”. To support data for by catch.

**Fishing Technique**: This is an optional field to be used if the data are to be exported to the EU FDI datacall. It is the Fishing Technique codes defined for the EU AER Fleet Economic data call, and is also used by the EU FDI data call.



**Dep Sea Regulation**: This is an optional field to be used if the data should be export to the EU FDI data call. It is an indicator with options “Yes” or “No” if the fishery is under the deep sea regulation.