**Instructions (delete this)**

**Anything in pink should be changed to your own details**

**Instructions in Blue or in Red should be deleted from your final draft.**

Report on the eel stock and fishery in:

**Country**

**2013/'14**

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**Reporting Period:** This report was completed in August 2013, and contains data up to 2012 and some provisional data for 2013.

**Contributors to the report:** ????

**STANDARD GUIDANCE FOR THE COMPLETION OF THIS REPORT**

**Codes to be used for circumstances of Nil Return in tables:**

* 0: Reserve this designation for a measured data point with an actual zero value (for example when the catch is zero but the effort is >zero).
* NP: “Not Pertinent”, where the question asked does not apply to the individual case (for example where catch data are absent as there is no fishery or where a habitat type does not exist in an EMU).
* NR: “Not Reported”, data or activity exist but numbers are not reported to authorities (for example for commercial confidentiality reasons).
* NC: “Not Collected”, activity / habitat exists but are not collected by authorities (for example where a fishery exists but the catch data are not collected at the relevant level or at all).
* ND: “No Data”, where there are insufficient data to estimate a derived parameter (for example where there are insufficient data to estimate the stock indicators (biomass and/or mortality)).

NOTE: Where no data exists for a section, do not delete the section but use one of these codes instead.

**Units and number of decimal places:**

|  |  |  |
| --- | --- | --- |
| **PARAMETER** | **UNIT** | **DECIMAL PLACES (MINIMUM)** |
| Length of glass eel | mm | 0 |
| Length of yellow/silver eel | mm | 0 |
| Age yellow or silver eel | year | 0 |
| Age glass eel/on grown | days | 0 |
| Area (EMU scale) | ha | 0 |
| Area (Sub EMU scale) | ha | 0 |
| Weight (individual Glass eel) | g | 2 |
| Weight (Yellow or silver eel) | g | 0 |
| Weight (Catch level) GE | kg | 0 |
| Weight (Catch level) Other | kg | 0 |
| Site/position | Lat Long units (WGS84) | Deg + decimal Min (2) |
| Biomass (B0 Bbest Bcurrent ,etc) | kg | 0 |
| Mortality rate | ΣF, ΣH, ΣA per year | 2 |
| Effort | Gear days, gear hours | 0 |
| Language | English |  |
| Price | Euros | 0 |
| Distance | Km | 0 |
| Season | Clearly define season |  |

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# Introduction:

*Description of national approach to eel management, fisheries, reporting etc.*

*NEW: The new format for the ICES advice relates the stock advice to the relevant ICES ECOREGION. So, your report should include an explanation of which EMUs are bounded to which Ecoregions. You can provide this information in text or in a table. The relevant ICES Ecoregions are: NORWEGIAN SEA; CELTIC SEA; NORTH SEA; SOUTH EUROPEAN ATLANTIC SHELF; WESTERN MEDITERRANEAN SEA; ADRIATIC-IONIAN SEAS; AEGEAN-LEVANTINE SEAS; BALTIC SEA.*

## ….. sub-chapters if required

# Time-series data

*Associated comments for each data series on data quality and data vulnerability should be included.*

*These time series will also be used in the international stock assessment along with data from other chapters.*

*Some repetition may occur between this chapter and later chapters, don't worry, repeat it. Later chapters will also include aggregated data x EMU also.*

*No need for lots of text, just data series with associated comments on data issues, methods, effort, quality etc.*

## Recruitment

*Only include time series data here: Total landings should be put in Ch 6*

### Glass eel recruitment

#### *Commercial*

#### *Recreational*

#### *Fishery independent*

### Yellow eel recruitment

#### *Commercial*

#### *Recreational*

#### *Fishery independent*

## Yellow eel landings

*Only include time series data here: Total landings should be put in Ch 6*

### Commercial

### Recreational

## Silver eel landings

*Only include time series data here: Total landings should be put in Ch 6*

### Commercial

### Recreational

## Aquaculture production

### Seed supply

*Quantity & Source*

### Production

*Production by weight – sold for consumption*

*Stocked*

## Stocking

### Amount stocked

*Source EMU*

*Stocked as glass eel or ongrown first*

### Catch of eel <12 cm and proportion retained for restocking

*By EMU*

*Proportion and quantity retained for stocking*

*Destination country for stocking*

### Reconstructed Time Series on Stocking

*Please reconstruct your stocking time series under the following headings as applicable:*

Table 3-x. Stocking of cultured and wild eel in country since 1984.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Local Source | | | | | Foreign Source | | | | |
| Year | Glass eel (n) | Quarantined Glass (n) | Wild Yellow (n) | On-grown cultured (n) | Total | Glass eel (n) | Quarantined Glass (n) | Wild Yellow (n) | On-grown cultured (n) | Total GEE (n) |
|
| 1953 |  |  |  |  |  |  |  |  |  |  |
| 1954 |  |  |  |  |  |  |  |  |  |  |
| 1955 |  |  |  |  |  |  |  |  |  |  |
| 1956 |  |  |  |  |  |  |  |  |  |  |
| 1957 |  |  |  |  |  |  |  |  |  |  |
| 1958 |  |  |  |  |  |  |  |  |  |  |

**AIM:** track the quantity and sizes of eels being stocked in order to assess the biomass (and mortality rates) derived from stocked eel.

**NOTES:**

* Local Source: The source of the stocked eels is local;
* Foreign Source: Eels come from another country;
* Split the stocked eels into the stages in the column headings, do not add anymore;
* Please, translate the number of Wild Yellowandon-grown cultured into GEE (Glass Eel Equivalents). If you are not able to do that, you must provide average size of stocked eels; and in case you have it, mortality rates andgrowth and/or age in order to make the transformation to GEE.

## Trade in eel

*NEW: The EMU source and EMU- or Country-of-destination, the weight (kg) of eel, and the eel stage (glass, yellow, silver) if available.*

*NEW: The market value of that trade, as euros per kg.*

# Fishing capacity:

*Describe the total capacity (number of companies, number of boats, number of fishermen, the size and age of the boats; if possible, as time series), describe the way this information is collected. Is there a full and up-to-date register? DCF requires exhaustive recording of commercial fisheries.*

*This is the POTENTIAL fishery usage (i.e. number of licences issued)*

reported by EMU

## Glass eel

## Yellow eel

## Silver eel

## Marine fishery

# Fishing effort:

*What type and number of nets is used? Is that recorded in (obligatory or voluntary) log-books? If possible, time series. Is there any other measure of fishing effort (fuel consumption)? What temporal resolution is available? DCF requires exhaustive recording, on a quarterly basis.?*

*This is the ACTUAL fishery usage (i.e. number of licences fished, number of net nights etc)*

reported by EMU

## Glass eel

## Yellow eel

## Silver eel

## Marine fishery

# Catches and landings

*What is the annual catch, by life stage (glass eel, yellow eel, silver eel)? Report by quarter (or monthly) basis, by type of fishing gear (mobile gears = trawls; hook and longline; fixed nets; pots and traps; others, specify). Provide time series if possible. How is the registration organised (who is responsible, how often, how stored, who carries out)?*

*Include recreational fisheries. Report on effort catch, and length frequency. If only partial information is available (part of the country, part of the sector), report just that. In that case, avoid confusion and repeat the data limitation in each table header and figure caption, and at the bottom line, provide a guess on what part of the total is being reported.*

reported by EMU

## Glass eel

## Yellow eel

## Silver eel

## Marine fishery

*Including information on where the 50% reduction has been applied, how it has been managed (catch quota, effort control, etc), and how it is monitored?*

## Recreational Fishery

*Some of these data may have been collected for WGRFS (working group on recreational fisheries surveys) so ask your national representative of that working group if you don’t have direct access to the relevant data.*

Recreational Fisheries: Retained and Released Catches

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Retained | | | | Released | | | | |
|  | Inland | | Marine | | Inland | |  | Marine | |
| Year | Angling | Passive Gears | Angling | Passive gears | Angling | Passive gears |  | Angling | Passive gears |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

Provide the catch and release mortality (%) used in your country for angling in marine and inland waters.

Recreational Fisheries: Catch and Release Mortality

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Released | | | | |
|  | Inland | |  | Marine | |
|  | Angling | Passive gears |  | Angling | Passive gears |
| Year |  |  |  |  |  |
|  |  |  |  |  |  |

## Bycatch, underreporting, illegal activities

*NEW: Any information / data on bycatch of eel in fisheries targeting other species, and of other species in eel fisheries. Refer to the Nil Returns codes for guidance on how to report here if you have no data or information.*

*NEW: any information on illegal or under-reporting of catches? If this has been taken into account in your assessments, is the ‘correction’ based on data or an approximation? Describe the source of any data.*

Table 6-x. Estimation of underreported catches in Country, per EMU and Stage.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Glass eel | | | | Yellow eel | | | | Silver Eel | | | | Combined  (Y + S) | | | |
| Year | **EMU\_code** | **Reported catches (kg)** | **Underrept. %** | **Underrept. (kg)** | **Total catches (kg)** | **Reported catches (kg)** | **Underrept. %** | **Underrept. (kg)** | **Total catches (kg)** | **Reported catches (kg)** | **Underrept. %** | **Underrept. (kg)** | **Total catches (kg)** | **Reported catches (kg)** | **Underrept. %** | **Underrept. (kg)** | **Total catches (kg)** |
| 2013 | EMU\_a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_b |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_c |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_d |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_e |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_f |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total/mean (%) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**AIM:** Determine the % of the underreporting and the total catches of the Country per stage.

**NOTE:** Please indicate in the text whether the percentage underreported catch is a direct measurement or a guess using the estimate to calculate the underreported kgs and Total catches.

Table 6-y. Existence of illegal activities, its causes and the seizures quantity they have caused

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Glass eel | | | Yellow eel | | | Silver Eel | | | Combined  (Y +S) | | |
| Year | EMU | Y/N/? | Cause | Seizures (kg) | Y/N/? | Seizures (kg) | Cause | Y/N/? | Seizures (kg) | Cause | Y/N/? | Seizures (kg) | Cause |
| 2013 | EMU\_a |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_b |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_c |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_d |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_e |  |  |  |  |  |  |  |  |  |  |  |  |
|  | EMU\_f |  |  |  |  |  |  |  |  |  |  |  |  |

**AIM:** Identify the illegal fishing activities and in case it is possible its causes and the seized kgs in case they were seizures.

**NOTES:**

- Y/N/?:

* Y: you know for sure they have been illegal activities;
* N: illegal activities are considered negligible / not significant;
* ?: You do not know whether they have been illegal activities or not.

- Cause: One of the followings:

* Fishing out of the season;
* Fishing without licence;
* Fishing using illegal gears;
* Retention of eel below or above any size limit;
* Illegal selling of catches.

# Catch per unit of effort

*Effort in commercial (and recreational?) landings. This is detailed CPUE for a small and reliable subset of fishers. In marine fish stock assessments, these data series are used for tuning stock assessments. If you use data series for eel for this purpose, describe them in detail, and how they are used.*

*Overall CPUE based on aggregated data*

*High quality data, typically from a subset of the fishery*

reported by EMU

## Glass eel

## Yellow eel

## Silver eel

## Marine fishery

# Other anthropogenic and environmental impacts

*Use this section to detail types of impact (eg. Turbine) and quantify the level of impact, for example & mortality of escapement and estimate of escapement killed in tonnes, or the amount of wetted area above each barrier. Refer to EMPs for management actions and estimated reductions in mortality with a time scale*

*Link this to the sigma H value in the stock indicators table*

*NEW: what data or information do you have on how the environment in your EMU has changed in the last 50 years that might have influenced eel production? For example, changes to water temperature or productivity such as eutrophication or removal of nutrients. Provide data or explanatory text.*

# Scientific surveys of the stock

*Informs ToR A, the trends in the stock. Recruits and silver eel possibly reported elsewhere but repeat here. Non-recruiting Yellow eel surveys are the most important data to report here.*

*NEW: Even if you cannot report data here, please include a description of the data that you think would be available if you had more time to collate and analyse.*

*Fish stock surveys are defined as those conducted on a regular basis providing detailed information on the fish stock (species, length and age distribution, abundance, etc), using well defined protocols.*

*Include eel stock surveys using electrofishing, fyke net, DIDSON or any other methods*

*Report what surveys are being conducted, how the stock is sampled, what part of the stock, which area, how often, what detail in data, etc. Provide time series, if possible.*

*Use obligatory sub-headers here:*

XX.G.1 Recruitment surveys, glass eel *(includes yellow eel in Scandinavia)*

XX.G.2 Stock surveys, yellow eel

XX.G.3 Silver eel

# Data collected for the DCF

*NEW: this section has been modified from the old “Catch composition at age and length” to cover all the data that are collected under national obligations to the EU Data Collection Framework (DCF).*

*If no data are collected under the DCF, state the reason(s) why this is the case. One reason will be that the DCF jurisdiction doesn’t apply to countries outside of the EU.*

*For those who do collect data, describe what data are collected, the sampling regime, what process is used to assess the precision and accuracy of those data, and anything else you think is relevant.*

Provide summary information on the monitoring of eel by EMU in the current year.

Table 10-1. Summary of the DCF monitoring implementation per EMU.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Data | River | Lakes | Estuaries | Lagoons | Coastal & Marine |
|  | No. of production / escapement surveys1 |  |  |  |  |  |
| No. of recruitment time-series surveys2 |  |  |  |  |  |
| No. fished aged |  |  |  |  |  |
| No. of fished sexed |  |  |  |  |  |
| No. of fish examined for parasites |  |  |  |  |  |
| No. of fish examined for contaminants |  |  |  |  |  |
| No. of non-fishery mortality studies3 |  |  |  |  |  |
| Socio-economic survey |  |  |  |  |  |

1 Surveys to estimate Bbest and/or Bcurrent [These should include WFD surveys where the data are being used to estimate production and/or escapement of eel].

2 Fishery-independent surveys.

3 Studies to determine ∑H for non-fisheries anthropogenic impacts, such as hydropower, barriers, predation, etc.

# Life history and other biological information

*NEW: this section will provide the eel life history data that might be useful to the ICES initiatives on Data-Limited-Stocks (DLS). The data requirements are taken from the reports of the WKLIFE workshop.*

**Report by country, EMU, catchment or sub-catchment, as appropriate**

**NEW: Report by sex, stage, as appropriate**

## Growth, silvering and mortality

*Von Bertalanffy parameters: Linf, K, t0*

*L50 = the length at which 50% of the population has silvered (my interpretation of 50% maturity)*

*Length and age at silvering*

*Fecundity*

*Weight at age*

*Length/weight relationship*

## Parasites and pathogens

EEQD Data – only include new data not previously reported

## Contaminants

EEQD Data – only include new data not previously reported

## Predators

# Other sampling

*e.g. habitats, fish passes, cormorants. Anything else? Describe the way the data are monitored, rather than the habitat itself. What, how, by whom, when, where, what for? This item is an open invitation to include anything you want*

# Stock assessment

## Method summary

*Outline the method(s) used to derive the stock indicators, etc, reported in the following section. Include information on whether Bbest is derived from Bcurrent or vice versa or the two are derived independently; the treatment of restocking in the derivation of mortality rates, where appropriate.*

*Alternatively, refer to published materials.*

### Estimate of B0

Table 13-1. Reference period for Bo.

|  |  |  |  |
| --- | --- | --- | --- |
| EMU\_code | B0 (kg/ha) | Reference time period | Whether or not changed from value reported last year (Y/N) |
|  |  |  |  |
|  |  |  |  |

## Summary data

*One of the main tasks for WGEEL will be to aggregate the EMU data on habitat, eel recruitment and eel escapement to undertake current stock status assessment of the international stock and following that post-evaluate the outcomes from the EU Regulation.*

*This Section should include the summaries per EMU from the EMPs and other sources where appropriate. Where differences between datasets occur, these should be highlighted with advice on which are the best available data for stock assessment purposes.*

### Stock indicators and Targets

*Note that not all targets may be available, for example the Reg does not set a mortality rate target. The mortality rate target from WGEEL 2012 corresponds to (0.92 if ‘Bcurrent/B0‘ >40%, or 0.92 \* Bcurrent/(40%\*B0) if ‘Bcurrent/B0’<40%)*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EMUcode | Indicator | biomass (T) | Mortality (rate) |  |  |  | Target |  |  |  |
|  | B0 | Bbest | Bcurr | ∑A | ∑F | ∑H | Source | Biomass (t) | ∑A (rate) |  |
| XY\_abcd |  |  |  |  |  |  | EMP |  |  |  |
|  |  |  |  |  |  |  | EU Reg |  |  |  |
|  |  |  |  |  |  |  | WGEEL |  |  |  |
| XY\_abcd |  |  |  |  |  |  | EMP |  |  |  |
|  |  |  |  |  |  |  | EU Reg |  |  |  |
|  |  |  |  |  |  |  | WGEEL |  |  |  |

### Habitat coverage

*Area corresponds to the wetted area of eel-producing habitat. “A’d” asks whether or not eel are assessed in that habitat type. REFER TO NIL RETURN CODES IF NECESSARY*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EMU code | River |  | Lake |  | Estuary |  | Lagoon |  | Coastal |  |
|  | Area (ha) | A’d Y/N) | Area (ha) | A’d Y/N) | Area (ha) | A’d Y/N) | Area (ha) | A’d Y/N) | Area (ha) | A’d Y/N) |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

### Impact

For each EMU, provide an overview of the assessed impacts per habitat type or for ‘All’ habitats where the assessment is applied across all relevant habitats. Barriers includes habitat loss. Indirect impacts are anthropogenic impacts on the ecosystem but only indirectly on eel (e.g. eutrophication)

A = assessed, MI = not assessed, minor, MA = not assessed major, AB = impact absent

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EMU code | Habitat | Fish com | Fish rec | Hydro & pumps | Barriers | Restocking | Predators | Indirect impacts |  |
| XY\_abdc | Riv | A/MI/ MA/AB |  |  |  |  |  |  |  |
|  | Lak |  |  |  |  |  |  |  |  |
|  | Est |  |  |  |  |  |  |  |  |
|  | Lag |  |  |  |  |  |  |  |  |
|  | Coa |  |  |  |  |  |  |  |  |
|  | All |  |  |  |  |  |  |  |  |

Express the loss in kg for each impact per developmental stage or MI = not assessed, minor, MA = not assessed major, AB = impact absent. Where available, also report the total loss as silver eel equivalents, and explain the method used to calculate equivalents in section 13.1.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EMU code | Stage | Fish com | Fish rec | Hydro & pumps | Barriers | Restocking | Predators | Indirect impacts |  |
| XY\_abdc | Glass |  |  |  |  |  |  |  |  |
|  | Yellow |  |  |  |  |  |  |  |  |
|  | Silver |  |  |  |  |  |  |  |  |
|  | Silver EQ |  |  |  |  |  |  |  |  |

### Precautionary Diagram

Include graph(s)

### Management Measures

Provide an overview of the management measures proposed and implemented in each EMU, grouped according to measure type. « Hydropower & Pumps » includes obstacles ; « Other » is for indirect measures such as implementing data collection and conducting studies. Indicate whether they were Planned in the original EMP or only since the EMP was approved, and whether they have been implemented fully, partially or not at all (the Outcome).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| EMU code | Action Type | Action | Life Stage | Planned | Outcome |
| XY\_abcd | Com Fish |  |  |  |  |
|  | Rec Fish |  |  |  |  |
|  | Hydropower & Pumps |  |  |  |  |
|  | Restocking |  |  |  |  |
|  | Other |  |  |  |  |

## Summary data on glass eel

*This section should provide all the glass eel data in summary tabular format. This may duplicate some information from other Chapters but it will make it easier for the WGEEL to address the new ToR on glass eel quantities.*

*For each year for the last 2-3 years*

quantities caught in the commercial fishery

exported to Asia

used in stocking

used in aquaculture for consumption

consumed direct

mortalities

# Sampling intensity and precision

*Have the data on catch composition, age, growth and/or production/escapement been analysed? How much do they vary between gears, between areas, between years, between quarters/months? And between otherwise identical samples? If not formally analysed, give us some feeling for the data, by presenting graphical examples of the variation (some years, some gears, some areas, etc.). Analysing the variation between samples is rather far removed from our usual biological research, but it directly translates into the sample sizes required to attain a pre-specified precision. Has precision been analysed, indeed? If so, what was the requirement, and what was achieved?*

Including data quality issues

# Standardisation and harmonisation of methodology

*This section is an overview of methods. Describe how you sample and measure, if possible referring (and summarising) existing protocols. The Workshop will re-process this information, in international overviews. The level of detail in your description is hard to determine, since you do not know at forehand what other countries are used to. Report at least on the following items:*

*-survey techniques, gears, operation, etc*

*-collecting samples from commercial catches, from gear/board/market,*

*-length and weight, alive/anaesthetised, fresh/frozen,*

*-age reading. Refer to Voellestad Lecomte-Finniger and Steinmetz (1988) and provide details*

*-criteria for life stages (glass/yellow/ silver)*

*-sex, from size only, from macroscopic examination of the internal gonads or from microscopical investigations?*

*… to be supplemented with anything you consider relevant. This is not an open invitation to fill many pages.*

## Survey techniques

## Sampling commercial catches

## Sampling

## Age analysis

## Life stages

## Sex determinations

## Data quality issues

# Overview, conclusions and recommendations

*Present a brief summary of the foregoing information. Focus conclusions on what still needs to be done, to live up to the ToR of the WGEEL. Be careful in your recommendations; a wish list will not become a bliss list.*

# Literature references