ICES WKEELDATA REPORT 2017

ICES SSGIEOM COMMITTEE

ICES CM 2017/SGIEOM:30

Ref. EU and Member States, WGEEL, WGRECORDS, ACOM, RCG, EIFAAC & GFCM

Report of the Workshop on Designing an Eel Data Call (WKEELDATA)

28 February-2 March 2017

Rennes, France



International Council for the Exploration of the Sea Conseil International pour l'Exploration de la Mer

H. C. Andersens Boulevard 44–46 DK-1553 Copenhagen V Denmark Telephone (+45) 33 38 67 00 Telefax (+45) 33 93 42 15 www.ices.dk info@ices.dk

Recommended format for purposes of citation:

ICES. 2017. Report of the Workshop on Designing an Eel Data Call (WKEELDATA), 28 February–2 March 2017, Rennes, France. ICES CM 2017/SGIEOM:30. 38 pp.

For permission to reproduce material from this publication, please apply to the General Secretary.

The document is a report of an Expert Group under the auspices of the International Council for the Exploration of the Sea and does not necessarily represent the views of the Council.

© 2017 International Council for the Exploration of the Sea

https://doi.org/10.17895/ices.pub.8699

Contents

Exe	ecutiv	e summary	3
1	Intr	oduction	4
	1.1	Terms of reference	4
	1.2	Organization and progress during the workshop	4
	1.3	Background information on eel life history and production (ICES 2012)	5
2	Rev	iew of data requirements	6
	2.1	Context of ICES advice	6
		2.1.1 Criteria for the use of data in ICES advisory work (ICES, 2014)	6
		2.1.2 Management objectives for European eel (ICES, 2012)	6
	2.2	Basis of WGEEL advice (see the stock annex and WGEEL report for details)	7
3	Def	ining quality standards	9
	3.1	Introduction	9
	3.2	Data flow and treatment	9
	3.3	Quality checks	12
		3.3.1 Quality check #1: National Data Collection	12
		3.3.2 Quality check #2: National Aggregations and Assessments	13
		3.3.3 Quality check # 3: Internal WGEEL Quality Assurance	15
		3.3.4 Quality check #4: Health Warnings and Caveats on WGEEL Outputs and Advice	15
	3.4	Peer Review of National EMP assessments	16
	3.5	Traceability	17
		3.5.1 Within Europe	17
		3.5.2 Beyond Europe	17
	3.6	Data deliveries from MS to ICES, when, how and until which date are catch and landings data representative?	17
4	Dat	a call	19
	4.1	Summaries of the data WGEEL requests in the 2017 data call	19
	4.2	- 2017 data call: part 1	19
	4.3	2018 data call: part 2	19
5	Dat	a spreadsheets	20
6	Eel	database	21
	6.1	Description of DBEEL	21
		6.1.1 Host and structure and script repository	21

	6.1.2	Reference tables	21
	6.1.3	Database creation and data uploading	21
7	Next steps		25
8	References.		26
Anı	nex 1:	List of participants	28
Annex 2:		Agenda	30
Anı	nex 3:	Data Call	31
Anı	nex 4: for eel data	Summary of the discussion regarding using InterCatch	36

Executive summary

A **Workshop on Designing an Eel Data Call** (WKEELDATA), (chaired by: Caroline Durif, Norway), met in Rennes, France, from 28 February to 2 March 2017 to plan a data call that is to be sent to all countries having natural production of European eel.

The workshop follows a need to standardize data reporting, increase its coverage, and improve data quality. A data call will ensure a more consistent and systematic approach to data reporting.

European eel life cycle is complex with a unique spawning area in the Sargasso Sea but growth areas widely distributed across Europe. The stock is genetically panmictic but the continental eel stock shows strong local and regional differences in population dynamics and local stock structures (sex ratio, length and age distributions). Data are reported to the Working Group on Eel (WGEEL), which generates the advice. Data correspond to several different life stages, from juveniles to prespawning eels, caught with various fishing gears in different habitats (from freshwater to saltwater environments). Local impacts by fisheries may vary from almost nil to heavy overexploitation. Other forms of anthropogenic mortality (e.g. hydropower, pumping stations) also impact on eel and vary in distribution and local relevance.

Most, but not all EU Member States reported quantitative estimates of the required stock indicators to the EU in 2012, and 2015. The reliability and accuracy of these data have not yet been fully evaluated, but WGEEL has identified weaknesses during its annual meetings. One of the main shortcomings is the lack of stock indicators in some non-European countries within the natural range of the European eel.

ICES started to launch official calls for fisheries-dependent data in 2012. Since then, data calls have been an integrated element in the process of addressing recurring advice requests as well as special requests.

The terms of reference were addressed by reviewing the data requirements and defining data quality standards. The WKEELDATA group reviewed the spreadsheets that are requested to be filled in by each country assessor. The types of data were rated according to how well they responded to the requests of WGEEL. At present, recruitment time-series of eels recruiting to continental habitats are the only data that are organized into a database. WKEELDATA participants agreed that expanding this database was the most efficient and sustainable manner to organise data from WGEEL. Notable progress was made during and after the workshop towards this aim. The WKEELDATA participants developed a 2-year plan to carry this out in a reasonable and realistic manner. New spreadsheets were created to facilitate data entry. These spreadsheets which follow the structure of the database, are included in the data call along with the main text. The main text for the data call was drafted during the workshop and finalized the months following the workshop.

1 Introduction

1.1 Terms of reference

The WGEEL annually collates data on recruitment, catches and landings from commercial and recreational fisheries, restocking, aquaculture production, rates of other human-induced mortalities on eel, biological characteristics of eel, etc. These data are currently provided by countries attending the WGEEL in many complex spreadsheets. Reporting is far from complete at present. One of the reasons is that the distribution area of the European eel covers a wider area than that of the EU Member States subjected to the European Eel Regulation EC No 1100/2007. Another reason is the lack of refinement and standardisation of the data reporting process. A data call hosted by ICES, EIFAAC and GFCM is considered an effective mechanism to significantly improve the situation.

To achieve this aim, WKEELDATA met to:

- a) Review WGEEL data requirements and define data quality standards;
- b) Modify WGEEL data spreadsheets to make them most efficient for data entry and analysis;
- c) Plan work to create a future database suitable for WGEEL data, with ICES DataCentre; and
- d) Draft proposal for eel data call working with ICES (ACOM), EIFAAC and GFCM. The data call to be announced with a submission deadline suitable for the 2017 meeting of the WGEEL, and future meetings.

1.2 Organization and progress during the workshop

The meeting was held between 28 February and 3 March 2017 at the Agrocampus in Rennes. It was attended by 13 experts, representing eight countries.

Tasks were defined as corresponding to the ToRs. Since the ToRs had a certain workflow and could not be handled simultaneously, the participants started the meeting by discussing the data requirements with regards to the advice requested of WGEEL and agreeing on the contents of the data call. Some inconsistencies in terminology and duplication in the previous data requests were also dealt with.

The issue of data quality was discussed within WKEELDATA. Quality can be checked at different levels and this was examined by a subgroup of participants. From the final discussions, it was envisaged how quality could be integrated in the database.

The data that correspond to recruitment time-series are already organised into a database which is hosted locally by the stock assessor of WGEEL (Cédric Briand). During the workshop and the period that followed, this existing database was modified by adapting it to ICES standards to start the process of integrating it into the ICES Datacentre. A repository was created in GitHub for WGEEL. Groundwork for inclusion of the rest of the data (other than recruitment time-series) has been laid during the meeting. The data call was then designed to facilitate the forthcoming transfer of data to the database. The WKEELDATA participants developed a 2-year plan to carry this out in a reasonable and realistic manner.

Thus, the year-1 data call (2017) asks the countries to provide a reduced dataset, recruitment time-series, catches and landings, data on restocking and aquaculture production, this including retrospective data. The transfer of this initial reduced dataset to the database will be tested during the WGEEL 2017 meeting. During the year-2 data call (2018), an annual update of the data will be requested as well as the biomass and mortality estimates (from 2009) which are part of the EU regulation (Council Regulation 1100/2007). These indicators will, in any case, be provided by EU member states, in 2018 for the Eel Management Plan progress report. In future, only annual updates will be requested. The database, as well as the R-scripts (which will be deposited in the GitHub) will ensure a transparent process and a better possibility for quality control.

1.3 Background information on eel life history and production (ICES 2012)

The European eel (*Anguilla anguilla*) is distributed across most of coastal countries in Europe and North Africa, with its southern limit in Mauritania (30°N) and its northern limit situated in the Barents Sea (72°N) and spanning all of the Mediterranean basin.

European eel life history is complex and atypical among aquatic species, being a longlived semelparous and widely dispersed stock. The shared single stock is genetically panmictic with a spawning area located in the southwestern part of the Sargasso Sea and therefore outside Community Waters. The newly hatched leptocephalus larvae drift with the ocean currents to the continental shelf of Europe and North Africa, where they metamorphose into glass eels and enter continental waters. The growth stage, known as yellow eel, may take place in marine, brackish (transitional), or freshwaters. This stage may last typically from 2TWO to 25 years (and could exceed 50 years) prior to metamorphosis to the silver eel stage and maturation. Age-atmaturity varies with temperature (latitude and longitude), ecosystem characteristics, and density-dependent processes. At the end of their life cycle yellow eels become silver eels which migrate back to the Sargasso Sea where they spawn and die after spawning. This act has not yet been witnessed in the wild. The European eel life cycle is shorter for populations in the southern part of their range compared to the north.

The amount of glass eel arriving in continental waters has declined since the early 1980s, to an index average of less than 1% in the continental North Sea and less than 5% elsewhere in Europe compared to the means for 1960–1979 levels (ICES, 2011a). The reasons for this decline are uncertain but may include overexploitation, pollution, non-native parasites and other diseases, migratory barriers and other habitat loss, mortality during passage through hydropower turbines, and/or oceanic-factors affecting migrations. The relative importance of these factors on local production is different throughout the range of the eel, and therefore management has to take into account the diversity of conditions and impacts in Community Waters, in the planning and execution of measures to ensure the protection and sustainable use of the population of European eel.

2 Review of data requirements

This chapter addresses Terms of Reference a): Review WGEEL data requirements and define data quality standards.

2.1 Context of ICES advice

2.1.1 Criteria for the use of data in ICES advisory work (ICES, 2014)

ACOM decided at the 2013 (ACOM, 2014) meeting on the following criteria for the use of data in ICES advisory work.

It is crucial that the data used to support science based advice are unbiased both in the sense that they are not filtered in any biased way or that access to data depends on specific outcomes of analysis. To ensure this, ACOM has decided that data will only be used in scientific analysis to support scientific advice if they fulfil certain criteria:

Data will only be used as a basis for ICES advice if they have been collected under a framework which ensures unbiased access to and use of the full dataset for analysis in support of scientific advice. 'Full dataset' means in this context that access and use is to the complete dataset at a resolution and with associated information which has been agreed prior to the collection of the data or the principles of which have been written in law.

This means that the data must either have been collected through a public programme subject to public regulation (legislation or directives), through studies or research projects where data are made available by the data collectors, or through projects or cooperative projects with the industry where a written agreement has been made prior to data collection that the complete dataset will be available for analysis on support of scientific advice.

2.1.2 Management objectives for European eel (ICES, 2012)

Given that the European eel is a panmictic stock with widespread distribution, the stock, fisheries, and other anthropogenic impacts are currently managed in accordance with the European Eel Regulation EC No 1100/2007, "establishing measures for the recovery of the stock of European eel" (European Commission, 2007). This regulation sets a framework for the protection and sustainable use of the stock of European eel of the species *Anguilla anguilla* in Community Waters, in coastal lagoons, in estuaries, and in rivers and communicating inland waters of Member States that flow into the seas in ICES areas 3, 4, 6, 7, 8, 9 or into the Mediterranean Sea (ICES, 2012, Annex 7).

The Regulation sets the national management objectives for Eel Management Plans (EMPs) (Article 2.4) to "reduce anthropogenic mortalities to permit with high probability the escapement to the sea of at least 40% of the silver eel biomass relative to the best estimate of escapement that would have existed if no anthropogenic influences had impacted the stock. The EMP shall be prepared with the purpose of achieving this objective in the long term." Each EMP constitutes a management plan adopted at national level within the framework of a Community conservation measure as referred to in Article 24(1)(v) of Council Regulation (EC) No 1198/2006 of 27 July 2006 on the European Fisheries Fund, thereby meaning that the implementation of man-

agement measures for an EMP qualifies, in principal, for funding support from the EFF.

The Regulation sets reporting requirements (Article 9) such that Member States must report on the monitoring, effectiveness and outcomes of EMPs, including the proportion of silver eel biomass that escapes to the sea to spawn, or leaves the national territory, relative to the target level of escapement; the level of fishing effort that catches eel each year; the level of mortality factors outside the fishery; and the amount of eel less than 12 cm in length caught and the proportions utilized for different purposes. This reporting has been every three years, starting 2012, and then will be every six years from 2018 onwards. The Commission further developed these reporting requirements in 2011/2012 as guidance for the 2012 reports (see ICES, 2012). This guidance adds the requirement to report fishing catches (as well as effort), and provides explanations of the various biomass, mortality rates and restocking metrics.

For the purposes of identifying the advice rule to be applied when giving advice on fishing possibilities, ICES classifies the stocks into six main categories based on available knowledge. Eel is assigned to category 3: stocks for which survey-based assessments indicate trends. This includes stocks for which survey or other indices are available that provide reliable indications of trends in stock metrics, such as total mortality, recruitment, and biomass.

For category 3–6 stocks the available knowledge is insufficient to apply the ICES MSY approach and the advice rule is therefore based on the precautionary approach. ICES is in the process of developing an MSY approach for stocks in categories 3 and 4.

2.2 Basis of WGEEL advice (see the stock annex and WGEEL report for details)

The reports of the Joint EIFAAC/ICES/GFCM Working Group on Eel document the ongoing process of describing the stock of the European eel, and associated fisheries and other anthropogenic impacts, and developing a methodology for giving scientific advice on management to promote a recovery in the international, panmictic European eel stock.

The Memorandum of Understanding (MoU) between the EU and ICES requires an assessment of the status of the eel stock every year. As recruitment and landings data are reported to the working group every year, these form the basis of the annual assessment. New national biomass and anthropogenic mortality stock indicators are scheduled to be available in 2015, 2018 and every six years thereafter. These have not, however, been benchmark assessed and are not therefore incorporated yet into the advice.

Recruitment time-series have been collated by the WG since the early 1980s. The trend in recruitment for the European eel is derived from long-term time-series collected in estuaries scattered over all of Europe. These recruitment-series are the best indicator of the status of the stock, as there is no pan-European evaluation of the silver eel stock output. The recruitment time-series data are derived from fishery-dependent sources and from fishery-independent surveys and include stages categorized as glass eel, young small eel and larger yellow eel recruiting to continental habitats. The WGEEL has collated information on recruitment from 51 time-series (twelve yellow eel and 39 glass eel series). A GLM reconstructed WGEEL 'Recruitment Index', sets the reference period to 1960–1979.

Fisheries exploit all continental life phases: glass eel recruiting to continental waters, the immature growing yellow eel, and the maturing silver eel. The EC Regulation requires that Member States report on fishing catches (as well as effort) and explains of the various biomass, mortality rates and stocking metrics.

Anthropogenic mortalities include those inflicted by fisheries, hydropower turbines and pumps, pollution and indirectly by other forms of habitat modification and obstacles to migration.

3 Defining quality standards

This chapter addresses Terms of Reference a) and d).

3.1 Introduction

This chapter will examine the general scheme of data collection, analysis and output as currently practised by WGEEL. Given the fragmented continental nature of the stock and its exploitation over such a wide geographic range, diversity of habitats and variation in stock dynamics a single-stock assessment methodology has not to date been implemented or even possible (Dekker, 2016).

Here we plot the flow of data through to the outputs, inserting the key data check points and proposing where data standards/SOPs and recording of identified issues should take place.

3.2 Data flow and treatment

In the "normal" analyses and assessments carried out by the WGEEL under its ToRs, the WG rarely handles raw data, and more often uses aggregated data, or data outputs from local/National Assessments (Figure 4.1).

In Tables 4.1 and 4.2, we make a distinction between aggregated data, Tier 1, and turning the output(s) from a National Assessment into input data for a WGEEL Assessment, Tier 2. Also in Tables 4.1 and 4.2 we show where the appropriate data quality and quality assurance procedures should take place, who is responsible and whom the end-users are.



Figure 4.1. Schematic showing the data and advisory process for eel. Also shown are the two tiers of data being provided to WGEEL, Tier 1 aggregated data and Tier 2, analysed and/or modelled outputs from national assessments.

Table 4.1. Tier 1 data collection and	l aggregation scheme indica	ting appropriate (Quality Check	points in the system.
			~	

Tier	Level	Action	Quality Check	Quality Check Description	Responsibility	Output to:
1	1	Raw Data Collection	1	National application of ICES and DCF data collection quality standards should be applied and documented, SOPs	National	
	2	Aggregation	2	Quality Assurance/Robustness of the Assessment as a component of the metadata	National	
	-			Annual Quality Comment in database (e.g. missing data, mortality, change in procedure/effort)		
	-			Rate the Annual data point on a reliability score, 1, good, 2 use with care, 3, not robust		
	3	Data Call/Upload		Aggregated data uploaded to the ICES Database, along with Quality Assurance/Robustness of the Assessment (see Quality Check #2)	National	ICES Database/WGEEL
	4	Stock status time-series	3	Internal WGEEL Quality Assurance, following ICES EG Guidelines	WGEEL	ICES Database/WGEEL
	-			such as data entry, code, conformity between assessment output, report, exec summary and draft advice document		
	5	Draft Advice	4	Health Warnings/Caveats in the Advice	WGEEL	Generic End-user/ EU

Tier	Level	Action	Quality Check	Quality Check Description	Responsibility	Output to:
2	1	Raw Data Collection	1 National application of ICES and DCF data collection quality standards should be applied and documented, SOPs		National	
	2	Assessment and Stock Indicators and associated	2	Quality Assurance/Robustness of the Assessment as a component of the metadata	National	EU
	-	data reported to EU		Annual Quality Comment in database (e.g. missing data, mortality, change in procedure/effort)		
	-			Rate the Annual data point on a reliability score, 1, good, 2 use with care, 3, not robust		
	3	Data Call/Upload		Stock Indicators and associated data reported to EU uploaded to the ICES Database, along with Quality Assurance/Robustness of the Assessment (see Quality Check #2)	National	ICES Database/WGEEL
	4	EMU/Stockwide Assessment	3	Internal WGEEL Quality Assurance, following ICES EG Guidelines	WGEEL	ICES Database/WGEEL
	-			such as data entry, code, conformity between assessment output, report, exec summary and draft advice document		
	5	Draft Advice	4	Health Warnings/Caveats in the Advice	WGEEL	Generic End-user/ EU

Table 4.2. Tier 2 data collection and assessment scheme indicating appropriate Quality Checkpoints in the system from data collection, assessment and advice.

3.3 Quality checks

ICES operates through a network of scientific expert and advisory groups. These groups, and the processes they feed into, act as a quality check on the data, both in terms of how the data were gathered and subsequently treated. The groups, in cooperation with regional programmes under the Regional Sea Conventions, set standards and guidelines for the collection, transmission, and analysis of these data.

ICES (2010; 2014; 2016) highlight concerns about the quality of data received by working groups and provide suggestions on how to overcome these concerns. Data providers are responsible for the quality of their data collection, collation and reporting of data to ICES and the EU.

As a first step in addressing these concerns several steps need to be taken by the data providers:

General requirements

- Fill in a Metadata for each data type (see ICES metadata or create a WGEEL template).
- Add quality ratings to WGEEL data call tables.
- Apply Standard Operating Procedures (SOP) and Data Quality Standards.
- Document Procedures applied.
- Data Quality Control to ensure data input and transfer are complete and accurate.
- Data Assurance.

It is important that sufficient self-explanatory information and documentation should accompany the data so that they are adequately qualified and can be used with confidence by endusers (e.g. WGEEL) other than those responsible for its original collection, processing, and quality control.

3.3.1 Quality check #1: National Data Collection

Quality Check #1 (Tables 4.1, 4.2) is the application of data quality standards and SOPs to the collection and collation of raw data. An example of good practice in ensuring high quality data would be to implement the following, extracted from various ICES guidelines (ICES guidelines for biological plankton data (Compiled August 2001; reviewed April 2006) http://ices.dk/sites/pub/Publication%20Reports/Data%20Guidelines/Data Guidelines biological%20plankton v3 revised 2006.pdf) and policies (ICES Data Policy http://ices.dk/marine-data/Documents/ICES-Data-policy.pdf):

ICES data standards

Ensure data are of good quality by implementing:

- Project protocol/Standard operating procedure.
- Qualifying the data using a traffic light system (Add comment to tables (e.g. complete data, partial data, incomplete. Or as requested in the data calls).
- Record the nature of the data:

- Raw, aggregated or analysed (how it's analysed should be documented).
- A brief description, or a reference to the data collection and processing methods should be made available on request by WGEEL for further information.
- Document the data history e.g. any changes made to the data due to errors, incomplete data becoming complete, etc.

DCF required data are collected based on National Programmes in which the MS indicate:

- which data are collected;
- the resources they allocate for the collection; and
- how data are collected.

MS must report annually on the implementation of their National Programmes and the Scientific, Technical and Economic Committee for Fisheries (STECF) evaluates these Annual Reports. Part of the data collected by the MS is uploaded in databases managed by the JRC in response to data calls issued by DG MARE. These data are analysed by experts of the STECF and form the basis for scientific opinions and recommendations formulated in STECF reports.

Driven by Article 6 of Council Regulation (EC) No 199/2008, STECF is responsible for evaluating the National Programmes of Member States, in terms of conformity to data content set by this Regulation, scientific relevance of the data to be covered and the quality of proposed methodologies, procedures and data submitted.

For Eel, policies should be developed by each by ICES to guide data collection. Each methodology should have a Standard Operating Procedure which should be linked to the ICES metadata outlining the methods, gear types, equipment calibration, etc.

3.3.2 Quality check #2: National Aggregations and Assessments

Quality Check #2 (Tables 4.1, 4.2) is the application of data quality standards to the aggregation, analysis and reporting of the data. Reporting includes the reporting of stock indicators to the EU as a requirement of the EU Regulation and the upload of those indicators into the ICES database for eel.

3.3.2.1 Metadata

Metadata are standardised information that describe something, or provide context to something, usually in a database. It is regulated by ISO 11179.

Metadata covers -

- Definition and description of content of datasets
- Methods used
- locations
- Ownership, point of contact of data
- Data Quality Overview

Sufficient self-explanatory information and documentation should accompany the data so that they are adequately qualified and can be used with confidence by scien-

tists/engineers other than those responsible for its original collection, processing and quality control.

A brief description of the sample and data processing procedures must be included and should contain information regarding (but not limited to):

- data robustness;
- data coverage with respect to the original scope;
- report on corrections, editing or quality control procedures applied to the data;
- estimate of final uncertainty in the data.

Information about any supplementary/complementary data collected at the same time should also be supplied. If a data report is available describing the data collection and processing, this can be referenced. If possible, a copy should be supplied with the data.

The Eel Database requires, as recommended by WGEEL (ICES, 2012), the creation of metadata for each dataseries and this needs a means of linking the metadata to each dataseries in the new eel database. ICES have a metadata format and reporting portal/repository for metadata descriptions. It would be prudent to apply this to the eel database although the applicability needs to be tested, especially in the case of non-ICES Member Countries that (will) contribute to the eel data process.

Some metadata or data descriptors, especially in relation to annual data entry needs to be stored with the data (for interpretation, etc.) and not in a separate tables/dbase. These will be captured in the annual data calls and stored as qualitative and data ratings scores in the database.

3.3.2.2 Aggregations (Tier 1)

WGEEL uses aggregated data, such as recruitment, landings, amount stocked, and aquaculture production as data inputs to time-series analysis. Data aggregated or analysed at the local or national level should be checked for data handling mistakes, bias and gaps or missing data. Examples of data aggregations are, summing over time of daily time-series into monthly or annual totals (e.g. recruitment time-series), or summing over space such as EMU landings data summed to the National level. Aggregations should be documented in the metadata.

The ICES database will require a comment field and a data rating score for each entry in the data call/database to indicate the level of robustness and uncertainty in the data for the data user.

Examples of the comments would be: "trap flooded for 10% of the time", "trap damaged and not efficient", "data raised to account for losses", etc.

And examples of the rating score would be 1 (data robust), 2 (data uncertain - and useable), 3 (data poor).

Data rating scores should be applied retrospectively where known, or if not known a rating score of 1 should be entered. Data ratings should be scored every year from 2015 forwards. Eventually, we recommend inserting 2 columns in each data file, one qualitative comment, one for rating score. Initially (in the first part of the data call, metadata will be recorded as comments associated to the different spreadsheets. A more rigid frame will be developed during the WGEEL meeting.

3.3.2.3 Assessments (Tier 2)

The WGEEL also uses the outputs from National Assessments reported to the EU (e.g. biomass, mortality), as data inputs to international assessments. The national assessments require a process of peer-review and intercalibration (ICES, 2016a WGEEL).

The indicator data (e.g. 3Bs and $\sum A$) will require a rating score to be included in the database along the lines proposed by ICES (2016 WGEEL):

- Validity (of methods).
- Consistency (meaning that methods have not changes).
- Accuracy (low uncertainty).
- Representativeness (of the EMU).

Requirement (to be implemented in the datasheets)

In the 2018 data call (part 2), a method of rating the robustness of the individual reported national/emu indicators will be required. This is to capture local variations in the assessments outside the formal peer-review/benchmark process.

3.3.3 Quality check # 3: Internal WGEEL Quality Assurance

Quality Check #3 (Tables 4.1, 4.2) is the application of quality standards to the work of the WGEEL to ensure a robust assessment and high quality scientific advice.

It is the responsibility of the Expert Group (i.e. WGEEL) to apply suitable quality checking to the data and assessments used in the working group. ICES guidelines should be applied where applicable.

ICES has a Transparent Assessment Framework (TAF) to organize data, methods, and results used in ICES assessments, so they are easy to reference and re-run. It is an online archive of final assessment for each year, for all stock categories. All data input and outputs are linked to existing or upcoming ICES data services.

- ICES has 3 Github sites.
- GitHub is a web-based repository hosting service to share and develop source code on scientific methods.

Data quality issues that arise during the WGEEL stock assessments will be reported to the relevant data provider for correction.

It would be advisable for national and international stock assessments in future to also determine the range of uncertainty/level of confidence in the analysis and the outputs.

3.3.4 Quality check #4: Health Warnings and Caveats on WGEEL Outputs and Advice

Quality Check #4 (Tables 4.1, 4.2) is the application of quality standards and qualifying issues to avoid misinterpretation of the data/output.

Outputs from WGEEL international stock assessments, such as recruitment timeseries, international assessment of silver eel production, escapement, and mortality, should all be fully described and have appropriate health warnings attached. This should include data quality, appropriateness, coverage, geographic coverage, and assumptions used in the assessment.

3.4 Peer Review of National EMP assessments

Methodology quality assurance

Inter-calibration and ground-truthing

International Stock assessment depends on the availability of a set of consistent estimators of comparable quality and methodology, within and between countries, while international post-evaluation depends on the data availability and data quality as delivered by the countries. The WGEEL undertook a review of assessment methods in 2008 (ICES, 2008). These have subsequently been reviewed by the ICES Working Group Study Group on International Ex post-evaluation on Eels (SGIPEE) (ICES, 2011) and by the DGMARE funded project POSE (Pilot project to estimate potential and actual escapement of silver eels) (Walker *et al.*, 2013). The models or assessments used by some countries have undergone peer-review (Oeberst and Fladung, 2012; Prigge *et al.*, 2013; McCarthy *et al.*, 2014; MacNamara and McCarthy, 2014) although the wider data collection and reporting may not have (ICES, 2013 (WGEEL, WKEPEMP)).

Both reports concluded that such scientific approaches required data quality assessment; in other words, a check on the quality, consistency and comparability of data supplied by the countries. This ground-truthing is a key part of the process of ensuring the accuracy and precision of model-based estimates, which is necessary for international and national assessments, and one of the main recommendations arising from the testing of eel assessment models in the EU-POSE project (Walker *et al.*, 2012). However, international coordination of data collection is lacking and recommended benchmarking and intercalibration exercises are few (e.g. eel ageing, ICES WKAREA, 2009; 2011).

Quality assurance of reported national stock indicators

The international assessment of a stock like the European eel requires that the biomass and mortality indicators (3Bs & Σ A) present a good quality assurance. ICES (2015) showed that the 2012 evaluation of the eel stock revealed some problems regarding the quality assurance of the indicators reported by Member States. Those concerns included

- quality of data;
- diversity of methods;
- range of models used to derive stock indicators.

WGEEL (2016) arrived at similar conclusions to SGIPEE (ICES, 2010) and EU POSE (Walker *et al.*, 2012) in that assessment methodologies should be:

- reviewed and rationalized to ensure the quality of methods;
- inter-calibrated and refined to eliminate redundancy;
- evaluated for their sensitivity against input data.

Although the Regulation acknowledges that there are diverse needs and conditions, which might require different approaches and that EMPs should be adjusted to regional and local conditions, the need to evaluate the effectiveness of measures at the national level, and to assess the stock at the international level, require a more efficient approach.

As concluded before, there remains an urgent requirement to test and improve the quality of data and analyses used in deriving national stock indicators.

We recommend a benchmarking process for quality assessment of stock assessments.

3.5 Traceability

Within eel data submissions to WGEEL and the EU there is a wide heterogeneity among the landings data with incomplete and inconsistent reporting by countries (e.g. WGEEL 2016, ICES Advice 2016). It was, therefore, considered inappropriate to analyse trends. As such total landings data have been found to be unreliable and it was hoped that the implementation of the DCF and eel Regulation/CITES traceability schemes might improve this situation.

3.5.1 Within Europe

The stock, fisheries, and other anthropogenic impacts, within EU and Member State waters, are managed in accordance with the European Eel Regulation No 1100/2007, "establishing measures for the recovery of the stock of European eel" (European Union, 2007). This regulation sets a framework for the protection and sustainable use of the stock of European eel of the species *Anguilla anguilla* in Community Waters, in coastal lagoons, in estuaries, and in rivers and communicating inland waters of Member States that flow into the seas in ICES Areas 3, 4, 6, 7, 8, 9 or into the Mediterranean Sea.

Article 12 of the regulation deals specifically with the control and enforcement concerning imports and exports of eel. It states that by 1st July 2009 Member States shall

• take the measures necessary to identify the origin and ensure the traceability of all live eels imported or exported from their territory.

3.5.2 Beyond Europe

The European Eel (*Anguilla anguilla*) is listed in CITES Appendix II and in Annex B to Council Regulation (EC) No 338/97 since 13 March 2009.

WKEELDATA reiterates the many previous recommendations for the implementation of an eel traceability and trade scheme. This is essential to the improvement of the eel landings, stocking, aquaculture and trade data quality.

3.6 Data deliveries from MS to ICES, when, how and until which date are catch and landings data representative?

In this section, we address the issue of reporting dates which may be inconsistent between what is reported to ICES and what is delivered by national experts to WGEEL, depending on the date when data are extracted from the database. The data may change concurrently as data are delivered by individual fishermen and being entered into the national database. Different fisheries and species may also be given different priorities in this process. Landings from freshwater are e.g. not given the highest priority. In the Swedish case, preliminary landings data are sent directly to ICES in late January, i.e. before all landings for the year before are reported to the responsible agency (SwAM). In late May, definitive data on landings are then sent to EuroStat, which sends the data further on to ICES and probably also to FAO. ICES replies to a question on this issue, "The final, official catch data (nominal catches) are submitted by the EU/EFTA countries to EUROSTAT [and] other submissions are sent directly to ICES and FAO". At this late date, we have to assume all existing data have been entered into the relevant databases. ICES dataset is published when the EUROSTAT's dataset is ready, and then been processed manually by ICES.

The official Swedish fishery statistics is since 2016 based on the same data extraction as are sent to EuroStat in late May, so those data are now believed to be complete. Before 2016 there may have been some differences. However, as it seems, eels used for Trap & Transport, (i.e. silver eels landed but later released downstream) as a stock conservation measure are still included in the freshwater data delivered to FAO. If similar ambiguously selected data are reported from other countries is not currently known.

As it seems, landings of eel in freshwater is only sent to FAO and to Statistics Sweden.

EuroStat presents data on both catch and landings of eel. However, their catch data correspond to Swedish landings and their landings data are then the figures coming from the reporting system based on sales notes only. The latter ones most often give much lower figures then the ones based on logbooks and similar systems.

The examples from Sweden given above could be used when considering the quality and completeness of data delivered from different countries to the different international databases.

4 Data call

ICES standard process for getting data for stock assessments is through Data Calls. Stability in structure of the data calls helps data submitters in national laboratories. The aim of the 2017–2018 data call is to harmonise and officialise the data requirements across, ICES, EIFAAC and GFCM countries. The draft has been designed using recent data calls for marine species stock assessments as examples of best practice; the draft data call has been discussed and agreed with ICES, EIFAAC and GFCM and will be issued to all countries that support natural production of the European eel.

4.1 Summaries of the data WGEEL requests in the 2017 data call

The data call asks for data describing: recruitment; fishery catches; fishery landings (killed); stocking and aquaculture production.

In 2017, this request is for all data as far back as available, to form a starting point for the creation of a database. In future years, the call will only be for the most recent year's data, plus any adjustments required to historic data.

The call also requires the provision of metadata and quality information associated with all data.

4.2 2017 data call: part 1

The final data call is given in Annex 4. The accompanying spreadsheets are described in the following chapter.

4.3 2018 data call: part 2

During the year-2 data call (2018), an annual update of the data will be requested as well as the biomass and mortality estimates (from 2009) which are part of the EU regulation (Council Regulation 1100/2007).

The exact content of the second part of the data call and its design should be determined during a second workshop to be held in 2018.

5 Data spreadsheets

The data and information are currently supplied to WGEEL through a Country Report text with associated figures and tables; recently data have been supplied in excel spreadsheets to aid standardisation of data format and content, and simplify transfer to analyses. The spreadsheets have been modified based on the findings of this workshop.

The annexes to the data call consist of five Excel files each corresponding to:

- Annex 1: Recruitment
- Annex 2: Catch and landings
- Annex 3: Stocking
- Annex 4: Aquaculture production
- Annex 5: Feedback

Each file contains a "readme" tab, one or two files for pasting in the data and several tabs which describe the different variables to fill in. These excel files are in a format that will ensure direct upload into the database. The last annex (5) consists of a single spreadsheet where one can leave comments and feedback intended to identify problems in filling out the spreadsheets and suggestions from data providers.

6 Eel database

This section addresses ToR c) Plan work to create a future database suitable for WGEEL data, with ICES DataCentre.

The assumption here is that a database is the most efficient way to upload, hold, and access the data. There are challenges with these aspects, not least in securing long-term hosting of the data, and agreeing on rules for the use of the data, but these have been addressed by others (also see Annex 5).

The group WKEELDATA has created a structure already transferable to ICES Data-Centre. Our proposal is as follows.

6.1 Description of DBEEL

6.1.1 Host and structure and script repository

WGEEL has described the existing database that is used or that may be used by the group and the work plan for developing a WG database (chapter 8 in ICES, 2014). During the present workshop, we tried to develop a database structure able to host most of the data which are used by WGEEL. This was implemented for the recruitment data (Figure 7.1).

Figures 7.2 to 7.5 show how the different data table (in white) are related to reference tables (in grey). For clarity, each figure represents the data of interest (recruitment, catch and landings, aquaculture production and stocking). The main idea is to use the same set of reference tables; this will ease development of the database and can be used to relate the series to each other.

6.1.2 Reference tables

We used as much as possible already existing reference tables, particularly those used by FAO or ICES. Hence, we will use for geographical coverage of the marine either FAO areas (http://www.fao.org/fishery/area/search/en), which includes ICES area and also gives area in the Mediterranean Sea or ICES Ecoregions (http://www.ices.dk/community/advisory-process/Pages/ICES-ecosystems-andadvisory-areas.aspx). Countries are the ISO-3166 codes (http://vocab.ices.dk/services/rdf/collection/ISO_3166). Station is a selection of fields from ICES station dictionary (http://www.ices.dk/marine-data/tools/Pages/Stationdictionary.aspx) and habitat type is the WLTYP field from station dictionary (http://vocab.ices.dk/services/rdf/collection/WLTYP) in which it should be necessary to add a 'freshwater' line (coded 'F'). Data unit table is based on ICES MUNIT reference (http://vocab.ices.dk/services/rdf/collection/MUNIT). Geographical information has been stored in the database in postgis columns. Those contain either point geographical location, or polygons for countries, ICES areas and EMU. The table of Eel Management Units (EMU) has been generated by the WGEEL, a more detailed table where some EMU are again split according to the sea towards which the basin drain is also added to the database.

6.1.3 Database creation and data uploading

The database for recruitment, (Figure 7.1) has been created during WKEELDATA under Postgresql. All necessary SQL script can be found in ICES GIT:

https://github.com/ices-eg/WGEEL

Script to create the database:

https://github.com/ices-eg/WGEEL/blob/master/SQL/script_create_base_v2.sql

Script to transfer data from the old database / create new data

https://github.com/ices-

eg/WGEEL/blob/master/SQL/transfer_from_old_database_script.sql



Figure 7.1. Physical diagram for the dbeel database for recruitment data.



Figure 7.2. Database for recruitment. Reference tables are grey.



Figure 7.3. Database for catch. Reference table are grey.



Figure 7.4. Database for aquaculture production. Reference table are grey.



Figure. 7.5. Database for restocking. Reference table are grey.

7 Next steps

The second part of the data call needs to be defined and the database needs to be further developed to include tables relating to catch and landings data, aquaculture productions and stocking data. From the excel templates delivered during the data call, data will have to be imported into the newly created database with scripts. The new table to be created for the 2018 data call also need to be included. A second workshop is needed to respond to these items.

Other issues that should be addressed in future are:

- Standardizing criteria to define data quality.
- building an interface so that countries can upload the data online.
- Include eel quality data on contaminants and diseases reported in European eel (ICES, 2015; 2016b) into the dbeel database.

8 References

- Dekker, W. 2016. Management of the eel is slipping through our hands! Distribute control and orchestrate national protection. ICES J. Mar. Sci. 73, 2442–2452.
- Díaz, E., Korta, M., Chust G., Ribailagua, J. 2016. In ICES. 2016. Report of the Working Group on Eels (WGEEL), 15–22 September 2016, Cordoba, Spain. ICES CM 2016/ACOM:19. 106 pp.
- ICES. 2008. Report of the 2008 session Joint EIFAC/ICES Working Group on Eels. ICES CM 2008 / ACOM:15. (Bordeaux, France: ICES/EIFAC).
- ICES. 2009. Workshop on Age Reading of European and American Eel (WKAREA), 20–24 April 2009, Bordeaux, France. ICES CM 2009\ACOM: 48. 66 pp.
- ICES. 2011. Report of the Study Group on International Post-Evaluation on Eels (SGIPEE), 24– 27 May 2011, London, UK. ICES CM 2011/SSGEF:13. p. 39.
- ICES. 2012. Report of the Workshop on Eel and Salmon DCF Data (WKESDCF), 3–6 July 2012, ICES HQ, Copenhagen, Denmark. ICES CM / ACOM:62. 67 pp.
- ICES. 2013. Report of the Joint EIFAAC/ICES Working Group on Eels (WGEEL), 18–22 March 2013 in Sukarietta, Spain, 4–10 September 2013 in Copenhagen, Denmark. ICES CM 2013/ACOM:18. 851 pp.
- ICES. 2013. Report of the Workshop on Evaluation Progress Eel Management Plans (WKEPEMP), 13–15 May 2013, Copenhagen, Denmark. ICES CM 2013/ACOM: 32., p. 757.
- ICES. 2014. Report of the ICES Advisory Committee (ACOM), 3–6 December 2013, ICES Headquarters, Copenhagen, Denmark. ICES CM 2013/ACOM:01. 47 pp.
- ICES. 2015. Report of the Workshop of a Planning Group on the Monitoring of Eel Quality under the subject "Development of standardized and harmonized protocols for the estimation of eel quality" (WKPGMEQ), 20–22 January 2015, Brussels, Belgium. ICES CM 2014/SSGEF:14. p. 274.
- ICES. 2016a. Report of the Working Group on Eels (WGEEL), 15–22 September 2016, Cordoba, Spain. ICES CM 2016/ACOM:19. 107 pp.
- ICES. 2016b. Report of the Workshop of the Working Group on Eel and the Working Group on Biological Effects of Contaminants (WKBECEEL), 25–27 January 2016, Os, Norway. ICES CM 2015/SSGEPD:20. 98 pp.
- McCarthy, T.K., Nowak, D., Grennan, J., Bateman, A., Conneely, B., and MacNamara, R. 2014. Spawner escapement of European eel (*Anguilla anguilla*) from the River Erne, Ireland. Ecol. Freshwater Fish 23, 21–32.
- MacNamara, R., and McCarthy, T.K. 2014. Silver eel (*Anguilla anguilla*) population dynamics and production in the River Shannon, Ireland. Ecol. Freshwater Fish 23, 181–192.
- Oeberst, R., and Fladung, E. 2012. German Eel Model (GEM II) for describing eel, *Anguilla anguilla* (L.), stock dynamics in the river Elbe system. Inf. Fischereisforsch. 59, 9–17.
- Prigge, E., Marohn, L., Oeberst, R., and Hanel, R. 2013. Model prediction vs. reality—testing the predictions of a European eel (*Anguilla anguilla*) stock dynamics model against the in situ observation of silver eel escapement in compliance with the European eel regulation. ICES J. Mar. Sci. 70, 309–318.
- Walker, A. M., E. Andonegi, P. Apostolaki, M. Aprahamian, L. Beaulaton, D. Bevacqua, C. Briand, A. Cannas, E. De Eyto, W. Dekker, G. A. De Leo, E. Diaz, P. Doering-Arjes, E. Fladung, C. Jouanin, P. Lambert, R. Poole, R. Oeberst and M. Schiavina. 2013. Lot 2: Pilot project to estimate potential and actual escapement of silver eel. Final project report, Service contract S12.539598, Studies and Pilot Projects for Carrying out the Common Fisheries

Policy. Brussels, European Commission, Directorate - General for Maritime Affairs and Fisheries (DG Mare): 358 pp.

NAME	ADDRESS	PHONE/FAX	E-mail
Laurent Beaulaton	Pôle ONEMA-Inra Gest' Aqua 65 rue de St Brieuc (Bât 15) CS 84215 35042 Rennes Cedex France		Laurent.beaulaton@onema.fr
Pritt Bernotas	Estonian University of Life Sciences Kreutzwaldi 64 Tartu 51014 Estonia	+372 56501622	pbernotas@emu.ee
Cedric Briand	Institution d'Amenagement de la Viliane Boulevard de Bretagne BP 11 56130 La Roche France		cedric.briand@eptb-vilaine.fr
Estibaliz Diaz	AZTI Sukarrieta Txatxarramendi ugartea z/g 48395 Sukarrieta (Bizkaia) Spain	phone +34 667174412 fax +34 94 657 25 55	ediaz@azti.es
Caroline Durif Chair	IMR Austevoll Aquaculture Research Station 5392 Storebø Norway		caroline.durif@imr.no
Derek Evans	Agri-food and Biosciences Institute AFBI HQ Newforge Lane Belfast BT9 5QX NI, UK	+44 28 9025 5551	derek.evans@afbini.gov.uk
Marko Freese	Thünen Intitute Institute of Fisheries Ecology Palmaille 9 22767 Hamburg Germany	+49 4102 70860 21	Marko.Freese@thuenen.de

Annex 1: List of participants

NAME	ADDRESS	PHONE/FAX	E-MAIL
Reinhold Hanel	Thünen Intitute Institute of Fisheries Ecology Palmaille 9 22767 Hamburg Germany	+49 40 38905290	reinhold.hanel@thuenen.de
Tomasz Nermer	National Marine Fisheries Research Institute ul Kollataja 1 81-332 Gdynia Poland	+48 58 7356211	nermer@mir.gdynia.pl
Ciara O'Leary	Inland Fisheries Ireland 3044 Lake Drive Citywest Business Campus Dublin 24 Ireland	+35318842600	ciara.oleary@fisheriesireland.ie
Russell Poole	Fisheries Ecosystem Advisory Services Furnace Newport, Co Mayo Ireland	+ 353 98 42300	Russell.poole@marine.ie
Alan Walker	Cefas Lowestoft Laboratory Pakefield Road Lowestoft Suffolk NR33 0HT UK	phone +44 (0) 1502 562244 mobile +44 (0) 7766 475301	alan.walker@cefas.co.uk
Håkan Wickström	Swedish University of Agricultural Sciences	phone +46 76- 126 81 34	hakan.wickstrom@slu.se
	Dept. of Aquatic Resources Institute of Freshwater Research Stångholmsvägen 2 178 93 Drottningholm	fax +46 10-478 42 69	
	Sweden		

Annex 2: Agenda

28/02/2017

9:00 welcome

9:15 Overview of tasks

10:30 Presentation of existing database (Cedric Briand)

10:45 Discussion:

- What final products do we want?
- What data do we need for these?
- What can we transfer already to ICES data centre?
- Quality score for each indicator. Whose job will it be?

12:30 lunch

13:30 assign tasks

14:00 Presentation by Priit Bernotas

14:30 Presentation by Nicolas Delage

15:00 field trip departure

1/03/2017

9:00 work in subgroups
12:30 lunch
13:30 work in subgroups
16:30 plenary- update tasks
17:30 end of the day

2/03/2017

9:00 work in subgroups: draft data call 12:30 lunch 13:30 plenary – go through report, finalize data call 18:00 end of meeting

Joint EIFAAC, ICES and GFCM Data call: Data submission for advice for European eel under WGEEL-Part 1: 2017

1) Rationale

This data call is intended to formalize data reporting across all countries with natural production of European eel. Therefore, this is a joint call from ICES, EIFAAC and GFCM, facilitated by ICES.

Much of the historic data are available to WGEEL already, but often in multiple versions, some with subtle differences and with limited information from which to identify the most up-to-date version. Furthermore, the descriptions of methods used to collect and process the data are often held separately in some Country Reports, and without the contact details of data stewards. These associated 'metadata' should be held alongside the 'eel data'.

Recognizing that the collection and provision of all eel and metadata is a huge task, the data call is split over two years (2017 and 2018), giving time to clarify the process for those providing the data and for the WGEEL and ICES to organize the data in the most efficient manner. This 2017 data call includes a request for information on how you believe the process could be improved (Annex 5)¹.

In 2017, the call focuses on data directly required to achieve the annual stock assessment in support of the ICES Advice published in 2017. A follow-up data call will be released in 2018, including requesting the data on silver eel escapement and other mortality rates, etc., as specified by the Eel Regulation 1100/2007 and EMPs.

Output

The data and metadata provided for this data call (2017) will be used as the basis for the annual stock assessment in support of the advice for the eel stock.

Ultimately, the output from these data calls will be an electronic database for European Eel stock, held in a single repository and complying with data quality standards. This database will be used as a basis for timely and efficient drafting of stock status reports for ICES, the European Commission including fisheries and trade matters, and the provision of regional and whole stock advice across the natural range of the European eel.

Legal framework

The legal framework for the data call is as follows, though noting that these don't all apply to every eel producing country:

• Council Regulation (EC) No 2017/1004 concerning the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy

¹ This is an annex to the data call and not an annex of the present report.

- Council Regulation (EU) No 1380/2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and E(EC) No 639/2004 and Council Decision 2004/585/EC.
- REC.DIR-GFCM/40/2016/2 on the progressive implementation of data submission in line with the GFCM Data Collection Reference Framework (DCRF).
- Council Regulation (EC) No 1100/2007 of 18 September 2007 establishing measures for the recovery of the stock of European eel.

2) Scope of the Data call

The data call is addressed to all countries within the geographic range of the European eel. These countries are distributed across different global and regional management organisations such as those represented in WGEEL (EIFAAC, ICES, GFCM).

Table 1. List of species.

Common name		Code	Scientific name
European eel	EEL		Anguilla anguilla

In this 2017 call we ask for submission of all available 'eel data' (including historical data and previously submitted data) for European eel on:

- Recruitment
- Catches and Landings
- Restocking
- Aquaculture production

Alongside each of these eel data, we request the following 'metadata':

- *Data Steward*: name and e-mail address of a person who can be contacted about the dataset.
- *Method used*: short description of the method used to collect the data.

These metadata are further described in the data input sheets of Annexes 1 to 4.

The call also includes Annex 5 where we would like to record any suggestions you may have for how this data call process might be improved in future.

3) Deadlines

ICES requests the data to be delivered to provide enough time for additional quality assurance prior to the Working Group meeting. The data should be submitted by email to the WGEEL stock assessor (Cedric Briand, e-mail below) by Monday 18th September, 2017. This deadline is set according to the ICES standards. Missing the reporting deadline will compromise the indispensable data quality checking (on a stock basis) before the use of that data to update assessments.

4) Data submission

These data should be submitted using the templates supplied in Annexes $1-4^2$ to this data call. Suggestions for improvements to the process should be recorded in Annex 5.

A detailed list of data formats, instructions and codes (e.g. treatment of nil values) to be used in the database can be found in Annexes 1–4.

Note that once the database is developed, we would hope to make the data reporting process more efficient using an online system. This will come in future years.

- 5) Recruitment (Annex 1)
 - Recruitment data are defined as the quantities of eel caught at specific (index) locations as they 'recruit' to the local vicinity. These captures can be either by fisheries or fishery-independent studies, which include handnets, fykenets or trapping ladders.
 - The WGEEL uses these time-series data to calculate the Recruitment Indices, relative to the reference period of 1960–1979, and the results form the basis of the annual Single-stock Advice reported to the EU Commission. These recruitment indices are also used by the EU CITES Scientific Review Group in their annual review of the Non-Detriment Finding position.
 - Data should be provided as annual total values.
 - The units of data are either numbers or weight (kg) of eel, or indices.
 - Those recruitment dataseries used in the Recruitment Indices are described in detail in the ICES European eel Stock Annex:

(http://ices.dk/sites/pub/Publication%20Reports/Stock%20Annexes/2015/Ang uilla anguilla S A.pdf). However, the data call also seeks new dataseries not listed in the Stock Annex.

- The recruitment series are categorized as glass eel, young eel, and larger yellow eel recruiting to continental habitats. The glass eel recruitment series are either comprised only of glass eel (i.e. zero age cohort) or a mixture of glass and young yellow eel. The young or larger yellow eel may consist of multiple year classes of eel but they are all 'recruiting' to the stock past the survey point in the same year.
- 6) Catches and Landings (Annex 2)
 - Catches are defined as the quantity of eel that are caught by fishing gears (defined by the FAO as the 'gross catch').
 - Landings are defined as the quantity of eel that are retained after capture (defined by the FAO as the Retained Catch), or to put it another way, re-

² These are the annexes to the data call (or data spreadsheets) and not the annexes of the present report.

moved from the water basin or management unit. So, Landings should not include any eels subject to assisted migration within the same river basin, or scientific studies where they are returned alive to the waters where they were caught.

- The WGEEL uses these data to report trends in catches and landings in the ICES Single-stock Advice. This information is requested by the Administrative Agreement between ICES and the EU Commission.
- Data should be provided as annual total values, according to life stage (glass, yellow, silver) and fishing activity type (commercial or recreational).
- The units of data are kg.
- As noted above, care should be taken to be clear whether the data reported are for catches or landings. The Stock Annex notes that there is a great heterogeneity among time-series of landings (also catches) because of inconsistencies in reporting by, and between, countries, as well as incomplete reporting of non-commercial and recreational fisheries.
- 7) Restocking (Annex 3)
 - Restocking data are defined as the quantity of eel that are released alive into waters of a basin or management unit other than the basin/management unit where they were caught (i.e. NOT including assisted upstream migration).
 - The WGEEL uses these data to check against eel production estimates and anthropogenic mortality rates reported by countries.
 - Data should be provided in annual totals per eel management unit.
 - The units of data are numbers and kg of eel when they are restocked.
 - Note that a potential consequence of restocking could be that estimates of silver eel production for the restocked basin could be higher than those of historic production.
- 8) Aquaculture production (Annex 4)
 - Aquaculture production data are defined as the quantity of eel produced on an annual basis from aquaculture facilities.
 - The WGEEL uses these data in addressing its remit to report annually on the state of the stock, associated fisheries and other anthropogenic impacts.
 - Data should be provided as annual total weights per country.
 - The units of data are kg.
 - Some aquaculture production data have previously been included in official landings statistics but this must be avoided.
 - Some eel are grown in aquaculture for periods of time and then released alive to waters not necessarily those from where they were caught. This can be done for a variety of reasons. Such eels should be registered as restocked and not as aquaculture production.
9) Contacts

For support concerning issues about the data call please contact:

 Cédric Briand. WGEEL Stock Assessor. E-mail: <u>Cedric.Briand@eptb-</u> <u>vilaine.fr</u>

For support concerning other data issues, please contact:

• Alan Walker, chair of WGEEL. E-mail: <u>Alan.walker@cefas.co.uk</u>

For questions about the content of the data call, please contact: advice@ices.dk

For questions on data submission, please contact: accessions@ices.dk

Annex 1. Provision of Recruitment Data

See attached Excel sheet "Eel_Data_Call_Annex1_Recruitment.xlsx".

Annex 2. Provision of Catch and Landings Data

See attached Excel sheet "Eel_Data_Call_Annex2_Catch_and_Landings.xlsx".

Annex 3. Provision of Restocking Data

See attached Excel sheet "Eel_Data_Call_Annex3_Stocking.xlsx".

Annex 4. Provision of Aquaculture Production Data

See attached Excel sheet "Eel_Data_Call_Annex4_Aquaculture_Production.xlsx".

Annex 5. Provision of Feedback

See attached Excel sheet "Eel_Data_Call_Annex5_Feedback.xlsx".

To fill in a new data seri using the following defi

series_info

ser_nameshort ser_namelong ser_typ_id

ser_effort_uni_code

ser_comment ser_uni_code ser_lfs_code

ser_hty_code

ser_habitat_name ser_emu_nameshort ser_cou_code ser_area_division

ser_tblcodeid ser_x ser_y

ser_sam_id

data

das_value das_year das_comment das_effort ies, follow the example in series_info_example and data_example, remove the data and initions, creating a new tab for each dataseries :

short name of the recuitment series eg `Vil` for the Vilaine long name of the recuitment series eg 'Vilaine estuary' for the Vilaine type of series 1= recruitment series unit used for effort, it is different from the unit used in the series, for instance some of the Dutch series rely on the number hauls made to collect the glass eel to qualify the series, see units sheet. Comment on the series. This should provide a description of the series, including changes when those have happened Units used in the series, see tr units uni sheet Lifestage see tr_lifestage_lfs sheet Habitat type see tr habitattype hty (F=Freshwater, MO=Marine Open,T=transitional...) Habitat name : this should include location and method (e.g. "Bresle river trap 3 km from the sea" or IYFS/IBTS sampling in the Skagerrak-Kattegat" See the codes of the emu (emu_nameshort) in sheet tr_emu_emu See the cou_code in the tr_country_cou table ICES square (division level) see tr_faoareas (f_division) This should refer to the id of the series once inserted in ICES station table, currently void x (longitude) EPSG:4326. WGS 84 (Google it) v (latitude) EPSG:4326. WGS 84 (Google it) The sampling type corresponds to trap partial, trap total, see tr samplingtype sam (sam_id)

Value Year Comment (including comments about data quality for this year) Effort (if used) d fill in new data

For each data series

Contact person name Contact person email address Method used to collect the data. These are comments to the WGEEL to help to understand how the data were processed. It can be a long text but keep it in the cell.



ser_nameshort	ser_namelong ser_typ_id	ser_effort_uni_code
Bres	Bresle	1
GiTC	Gironde Estuary	1
Loi	Loire Estuary cc	1
SevN	Sèvres Niortaise	1
GiCP	Gironde Estuary	1
AdCP	Adour Estuary (1
Fre	Frémur	1
AdTC	Adour Estuary (1
Vac	Vaccares	1
GiSc	Gironde scientif	1 nr haul
Vil	Vilaine Arzal tra	1

ser_comment	ser_uni_o	co ser_lf	s_cocser_hty_	co ser_habitat
Channelglass eel and young yellow eel survey at the trappe	nr	GY	F	Bresle rive
	t	G	Т	Estuary (ca
Based on total catch of glass eel from the fishery. This seri	kg	G	Т	Estuary
Last update 2008, series with holes, no data since	kg/boat/d	I G	Т	Estuary
	kg/boat/d	G	Т	Estuary (C
	kg/boat/d	I G	Т	Estuary (C
River Fremur, channel, BrittanyGlass eel and yellow eel tot	nr	Y	F	Frémur riv€
only marine fishermen since 2000	t	G	Т	Estuary (ca
Grau de la FourcadeGlass eel trap, monitoring from octobe	nr	G		Gates at S
	index	G	Т	Scientific S
Fishery corrected. Data from 2009 onward calculated from	t	G	Т	Arzal

ser_emu_r	nser_	_cou_ccser_area_cser_	tblcodeser_x	ser_y	ser_sam_id
FR_Sein	FR	27.7.d	1.42	50.05	5
FR_Garo	FR	27.8.b	-0.8	45.4	1
FR_Loir	FR	27.8.a	-1.96	47.28	1
FR_Loir	FR	27.8.a	-1.07	46.31	2
FR_Garo	FR	27.8.b	-0.8	45.4	2
FR_Adou	FR	27.8.b	-1.44	43.48	2
FR_Bret	FR	27.7.e	-2.09479	48.57316	4
FR_Adou	FR	27.8.b	-1.44	43.48	1
FR_Rhon	FR	37.1.2	4.444	43.45	5
FR_Garo	FR	27.8.b	-0.8	45.4	3
FR_Bret	FR	27.8.a	-2.39	47.5	4

das_value	das_year	das_comment	das_effort
25277	1994		
23068	1995		
9140	1996		
15849	1997		
10547	1998		
3558	1999		
7403	2000		
5980	2001		
4394	2002		
18932	2003	change brought to the trapping ladder	
11178	2004		
5976	2005		
3206	2006		
6132	2007		
3010	2008		
6911	2009		
8097	2010		
3536	2011	2013 update	
2890	2012	2013 update	
6063	2013		
4792	2014	Jean-Louis Fagard (via laurent, august 2015) Jean-Louis Fagard : september 2015, number caught 15/09 represent 94% of migration on the 5 last year and 97% of migration from 1994 to 2014 (21 ans). Change 2016 (end of migration	
4320	2015	4206>4320)	
6190	2016	Jean Louis Fagard: Estimate 11 august 2016 : 4661 change 2016 6190 the 15/09/2016	

uni_code	uni_name
kg	weight in kilogrammes
nr	number
index	calculated value following a specified protocol
t	weight in tonnes
nr/h	number per hour
nr/m2	number per square meter
kg/d	kilogramme per day
kg/boat/d	kilogramme per boat per day
nr haul	number of haul
nr electrofishi	number of electrofishing campaign in the year to collect the recruitment index
ha	Surface area

lfs_code	lfs_name
G	glass eel
S	silver eel vellow eel+
YS	silver eel
GY	glass eel + yellow eel

Y yellow eel

lfs_definition

Young, unpigmented eel, recruiting from the sea into continental waters. WGEEL consider the glass eel term to include all recruits of the 0+ cohort age. In some cases, however, this also includes the early pigmented stages.

Migratory phase following the yellow eel phase. Eel in this phase are characterized by darkened back, silvery belly with a clearly contrasting black lateral line, enlarged eyes and pectoral fins. Silver eel undertake downstream migration towards the sea. This phase mainly occurs in the second half of calendar years, although some are observed throughout winter and following spring.

Yellow eel defined below.

A mixture of glass and yellow eel, some traps have historical set of data where glass eel and yellow eel were not separated, although they were dominated by glass eel.

Life-stage resident in continental waters. Often defined as a sedentary phase, but migration within and between rivers, and to and from coastal waters occurs and therefore includes young pigmented eels (small eels sometimes called elvers or bootlace eels). In particular, some recruitment series either far up in the river (e.g. Meuse) or in the Baltic consist of multiple age classes of young yellow eel, typically from 1 to 10+ years of age- they are referred to as Yellow eel Recruits.

hty_code	hty_description
F	Freshwater
Т	WFD Transitional water - implies reduced salinity
С	WFD Coastal water
MO	Marine water (open sea)

fid	f_level	f_code	f_status	ocean	subocean	f_area	
227	DIVISION	21.0.A	1	Atlantic		2	21
230	DIVISION	21.0.B	1	Atlantic		2	21
228	DIVISION	21.1.A	1	Atlantic		2	21
229	DIVISION	21.1.B	1	Atlantic		2	21
231	DIVISION	21.1.C	1	Atlantic		2	21
195	DIVISION	21.1.D	1	Atlantic		2	21
196	DIVISION	21.1.E	1	Atlantic		2	21
198	DIVISION	21.1.F	1	Atlantic		2	21
197	DIVISION	21.2.G	1	Atlantic		2	21
199	DIVISION	21.2.H	1	Atlantic		2	21
235	DIVISION	21.2.J	1	Atlantic		2	21
234	DIVISION	21.3.K	1	Atlantic		2	21
239	DIVISION	21.3.L	1	Atlantic		2	21
200	DIVISION	21.3.M	1	Atlantic		2	21
218	DIVISION	21.3.N	1	Atlantic		2	21
201	DIVISION	21.3.0	1	Atlantic		2	21
240	DIVISION	21.3.P	1	Atlantic		2	21
238	DIVISION	21.4.R	1	Atlantic		2	21
233	DIVISION	21.4.S	1	Atlantic		2	21
243	DIVISION	21.4.T	1	Atlantic		2	21
219	DIVISION	21.4.V	1	Atlantic		2	21
232	DIVISION	21.4.W	1	Atlantic		2	21
241	DIVISION	21.4.X	1	Atlantic		2	21
242	DIVISION	21.5.Y	1	Atlantic		2	21
220	DIVISION	21.5.Z	1	Atlantic		2	21
236	DIVISION	21.6.A	1	Atlantic		2	21
221	DIVISION	21.6.B	1	Atlantic		2	21
237	DIVISION	21.6.C	1	Atlantic		2	21
222	DIVISION	21.6.D	1	Atlantic		2	21
223	DIVISION	21.6.E	1	Atlantic		2	21
224	DIVISION	21.6.F	1	Atlantic		2	21
225	DIVISION	21.6.G	1	Atlantic		2	21
226	DIVISION	21.6.H	1	Atlantic		2	21
267	DIVISION	27.1.a	1	Atlantic		2	27
275	DIVISION	27.1.b	1	Atlantic		2	27
171	DIVISION	27.10.a	1	Atlantic		2	27
215	DIVISION	27.10.b	1	Atlantic		2	27
262	DIVISION	27.12.a	1	Atlantic		2	27
116	DIVISION	27.12.b	1	Atlantic		2	27
253	DIVISION	27.12.c	1	Atlantic		2	27
268	DIVISION	27.14.a	1	Atlantic		2	27
264	DIVISION	27.14.b	1	Atlantic		2	27
265	DIVISION	27.2.a	1	Atlantic		2	27
266	DIVISION	27.2.b	1	Atlantic		2	27
277	DIVISION	27.3.a	1	Atlantic		2	27
258	DIVISION	27.3.b, c	1	Atlantic		2	27
257	DIVISION	27.3.d	1	Atlantic		2	27
274	DIVISION	27.4.a	1	Atlantic		2	27
259	DIVISION	27.4.b	1	Atlantic		2	27

255 DIV	ISION	27.4.c	1 Atlantic	2	27
263 DIV	ISION	27.5.a	1 Atlantic	2	27
261 DIV	ISION	27.5.b	1 Atlantic	2	27
271 DIV	ISION	27.6.a	1 Atlantic	2	27
260 DIV	ISION	27.6.b	1 Atlantic	2	27
273 DIV	ISION	27.7.a	1 Atlantic	2	27
272 DIV	ISION	27.7.b	1 Atlantic	2	27
256 DIV	ISION	27.7.c	1 Atlantic	2	27
270 DIV	ISION	27.7.d	1 Atlantic	2	27
269 DIV	ISION	27.7.e	1 Atlantic	2	27
251 DIV	ISION	27.7.f	1 Atlantic	2	27
252 DIV	ISION	27.7.g	1 Atlantic	2	27
250 DIV	ISION	27.7.h	1 Atlantic	2	27
249 DIV	ISION	27.7.j	1 Atlantic	2	27
254 DIV	ISION	27.7.k	1 Atlantic	2	27
248 DIV	ISION	27.8.a	1 Atlantic	2	27
214 DIV	ISION	27.8.b	1 Atlantic	2	27
213 DIV	ISION	27.8.c	1 Atlantic	2	27
217 DIV	ISION	27.8.d	1 Atlantic	2	27
216 DIV	ISION	27.8.e	1 Atlantic	2	27
212 DIV	ISION	27.9.a	1 Atlantic	2	27
172 DIV	ISION	27.9.b	1 Atlantic	2	27
123 DIV	ISION	34.1.1	1 Atlantic	3	34
122 DIV	ISION	34.1.2	1 Atlantic	3	34
126 DIV	ISION	34.1.3	1 Atlantic	3	34
134 DIV	ISION	34 3 1	1 Atlantic	3	34
132 DIV	ISION	34 3 2	1 Atlantic	3	34
142 DIV	ISION	34 3 3	1 Atlantic	3	34
		34.3.5	1 Atlantic	3	34
		34 3 5	1 Atlantic	3	34
178 DIV		34 3 6	1 Atlantic	3	34
158 DIV		34 4 1	1 Atlantic	3	34
131 DIVI		34.4.2	1 Atlantic	3	34
177 DIV		37.1.1	1 Atlantic	3	37
		37.1.1	1 Atlantic	3	37
		37.1.2	1 Atlantic	3	37
		37.1.3	1 Atlantic	2	37
		37.2.1	1 Atlantic	3	37
		37.2.2	1 Atlantic	2	37
		27 2 7	1 Atlantic	2	27
		27 / 1	1 Atlantic	5 2	37 27
		27.4.1 27.4.2	1 Atlantic	5 2	57 27
		57.4.2 27.4.2	1 Atlantic	ວ ວ	57 27
		57.4.5 41 1 1	1 Atlantic	с л	57 41
		41.1.1	1 Atlantic	4	41 41
		41.1.2 11 1 2	1 Atlantic	4	4⊥ ⊿1
		41.1.J	1 Atlantia	4 1	4⊥ ⊿1
		41.1.4	1 Atlantic	4	4⊥ ⊿1
162 DIV		41.2.1 41.2.2	1 Atlantic	4	4⊥ ⊿1
		41.2.2	1 Atlantic	4	41 44
172 DIV	ISION	41.2.3	I Atlantic	4	41

169 DIVISION	41.2.4	1 Atlantic	4	41
176 DIVISION	41.3.1	1 Atlantic	4	41
189 DIVISION	41.3.2	1 Atlantic	4	41
170 DIVISION	41.3.3	1 Atlantic	4	41
202 DIVISION	47.1.1	1 Atlantic	4	47
203 DIVISION	47.1.2	1 Atlantic	4	47
208 DIVISION	47.1.3	1 Atlantic	4	47
209 DIVISION	47.1.4	1 Atlantic	4	47
210 DIVISION	47.1.5	1 Atlantic	4	47
211 DIVISION	47.1.6	1 Atlantic	4	47
207 DIVISION	47.2.1	1 Atlantic	4	47
206 DIVISION	47.2.2	1 Atlantic	4	47
193 DIVISION	47.A.0	1 Atlantic	4	47
194 DIVISION	47.A.1	1 Atlantic	4	47
247 DIVISION	47.B.0	1 Atlantic	4	47
245 DIVISION	47.B.1	1 Atlantic	4	47
204 DIVISION	47.C.0	1 Atlantic	4	47
246 DIVISION	47.C.1	1 Atlantic	4	47
205 DIVISION	47.D.0	1 Atlantic	4	47
244 DIVISION	47.D.1	1 Atlantic	4	47
152 DIVISION	57.5.1	1 Indian	5	57
159 DIVISION	57.5.2	1 Indian	5	57
191 DIVISION	58.4.1	1 Indian	10	58
190 DIVISION	58.4.2	1 Indian	10	58
192 DIVISION	58.4.3	1 Indian	10	58
174 DIVISION	58.4.4	1 Indian	10	58
168 DIVISION	58.5.1	1 Indian	10	58
173 DIVISION	58.5.2	1 Indian	10	58
133 DIVISION	71.6.1	1 Pacific	7	71
130 DIVISION	71.6.2	1 Pacific	7	71
143 DIVISION	87.1.1	1 Pacific	8	87
146 DIVISION	87.1.2	1 Pacific	8	87
149 DIVISION	87.1.3	1 Pacific	8	87
147 DIVISION	87.1.4	1 Pacific	8	87
155 DIVISION	87.2.1	1 Pacific	8	87
154 DIVISION	87.2.2	1 Pacific	8	87
160 DIVISION	87.2.3	1 Pacific	8	87
164 DIVISION	87.2.4	1 Pacific	8	87
162 DIVISION	87.2.5	1 Pacific	8	87
153 DIVISION	87.2.6	1 Pacific	8	87
167 DIVISION	87.3.1	1 Pacific	8	87
166 DIVISION	87.3.2	1 Pacific	8	87
165 DIVISION	87.3.3	1 Pacific	8	87

f_subarea	f_division
21	21.0.A
21	21.0.B
21.1	21.1.A
21.1	21.1.B
21.1	21.1.C
21.1	21.1.D
21.1	21.1.E
21.1	21.1.F
21.2	21.2.G
21.2	21.2.H
21.2	21.2.J
21.3	21.3.K
21.3	21.3.L
21.3	21.3.M
21.3	21.3.N
21.3	21.3.0
21.3	21.3.P
21.4	21.4.R
21.4	21.4.S
21.4	21.4.T
21.4	21.4.V
21.4	21.4.W
21.4	21.4.X
21.5	21.5.Y
21.5	21.5.Z
21.6	21.6.A
21.6	21.6.B
21.6	21.6.C
21.6	21.6.D
21.6	21.6.E
21.6	21.6.F
21.6	21.6.G
21.6	21.6.H
27.1	27.1.a
27.1	27.1.b
27.1	27.10.a
27.1	27.10.b
27.12	27.12.a
27.12	27.12.b
27.12	27.12.c
27.14	27.14.a
27.14	27.14.b
27.2	27.2.a
27.2	27.2.b
27.3	27.3.a
27.3	27.3.b, c
27.3	27.3.d
27.4	27.4.a
27.4	27.4.b

27.4	27.4.c
27.5	27.5.a
27.5	27.5.b
27.6	27.6.a
27.6	27.6.b
27.7	27.7.a
27.7	27.7.b
27.7	27.7.c
27.7	27.7.d
27.7	27.7.e
27.7	27.7.f
27.7	27.7.g
27.7	27.7.h
27.7	27.7.j
27.7	27.7.k
27.8	27.8.a
27.8	27.8.b
27.8	27.8.c
27.8	27.8.d
27.8	27.8.e
27.9	27.9.a
27.9	27.9.b
34.1	34.1.1
34.1	34.1.2
34.1	34.1.3
34.3	34.3.1
34.3	34.3.2
34.3	34.3.3
34.3	34.3.4
34.3	34.3.5
34.3	34.3.6
34.4	34.4.1
34.4	34.4.2
37.1	37.1.1
37.1	37.1.2
37.1	37.1.3
37.2	37.2.1
37.2	37.2.2
37.3	37.3.1
37.3	37.3.2
37.4	37.4.1
37.4	37.4.2
37.4	37.4.3
41.1	41.1.1
41.1	41.1.2
41.1	41.1.3
41.1	41.1.4
41.2	41.2.1
41.2	41.2.2
41.2	41.2.3

	41.2	41.2.4
	41.3	41.3.1
	41.3	41.3.2
	41.3	41.3.3
	47.1	47.1.1
	47.1	47.1.2
	47.1	47.1.3
	47.1	47.1.4
	47.1	47.1.5
	47.1	47.1.6
	47.2	47.2.1
	47.2	47.2.2
47.A		47.A.0
47.A		47.A.1
47.B		47.B.0
47.B		47.B.1
47.C		47.C.0
47.C		47.C.1
47.D		47.D.0
47.D		47.D.1
	57.5	57.5.1
	57.5	57.5.2
	58.4	58.4.1
	58.4	58.4.2
	58.4	58.4.3
	58.4	58.4.4
	58.5	58.5.1
	58.5	58.5.2
_71.6		71.6.1
_71.6		71.6.2
	87.1	87.1.1
	87.1	87.1.2
	87.1	87.1.3
	87.1	87.1.4
	87.2	87.2.1
	87.2	87.2.2
	87.2	87.2.3
	87.2	87.2.4
	87.2	87.2.5
	87.2	87.2.6
	87.3	87.3.1
	87.3	87.3.2
	87.3	87.3.3

qal_id qal_level qal_text

No information required in 2017. Request to be developed for 2018.

emu_nameshort	emu_name	emu_cou_code
BE_total		BE
CZ_total		CZ
DE_total		DE
DK_total		DK
EE_total		EE
FI_total		FI
VA_total		VA
PL_total		PL
SE_total		SE
LT_total		LT
LV_total		LV
NL_total		NL
AX_total		AX
IE_outside_emu		IE
GB_outside_emu		GB
FR_outside_emu		FR
ES_outside_emu		ES
PT_outside_emu		РТ
 IT_outside_emu		IT
MT_outside_emu		MT
SI_outside_emu		SI
HR_outside_emu		HR
BA_outside_emu		BA
ME_outside_emu		ME
AL_outside_emu		AL
GR_outside_emu		GR
NO_total		NO
BE_Meus		BE
BE_Rhin		BE
BE_Sche		BE
CZ_Elbe		CZ
RU_total		RU
LU_total		LU
TR_outside_emu		TR
CY_outside_emu		СҮ
SY_outside_emu		SY
LB_outside_emu		LB
IL_outside_emu		IL
EG_outside_emu		EG
LY_outside_emu		LY
TN_outside_emu		TN
DZ_outside_emu		DZ
MA_outside_emu		MA
LU_outside_emu		LU
VA_outside_emu		VA
NO_outside_emu		NO
SE_outside_emu		SE
AX_outside_emu		AX
FI_outside_emu		FI
—		

EE_outside_emu	EE
LV_outside_emu	LV
LT_outside_emu	LT
RU_outside_emu	RU
PL_outside_emu	PL
CZ_outside_emu	CZ
DE_outside_emu	DE
DK_outside_emu	DK
ES_Nava	ES
ES_Spai	ES
NL_outside_emu	NL
BE_outside_emu	BE
IT_Cala	IT
IT_Camp	IT
IT_Emil	IT
IT_Frio	IT
IT_Lazi	IT
IT_Ligu	IT
IT_Lomb	IT
 IT_Piem	IT
IT_Vall	IT
 IT_Vene	IT
 LT_Lith	LT
LU_Luxe	LU
AL_total	AL
BA_total	BA
HR_total	HR
IL_total	IL
 CY_total	CY
 DZ_total	DZ
EG_total	EG
SI_total	SI
SY_total	SY
TN_total	ΤN
TR_total	TR
LB_total	LB
 LY_total	LY
 MT_total	MT
ME_total	ME
MA_total	MA
GR_total	GR
IE_total	IE
FR_total	FR
PT_total	РТ
_ IT_total	IT
ES_total	ES
GB_total	GB
BE_Sein	BE
CZ_Oder	CZ
DE_Eide	DE

DE_Elbe	DE
DE_Ems	DE
DE_Maas	DE
DE_Oder	DE
DE_Rhei	DE
DE_Schl	DE
DE_Warn	DE
DE Wese	DE
DK Inla	DK
_ EE Narv	EE
_ EE West	EE
_ ES anda	ES
_ ES_Astu	ES
ES Bale	ES
ES Basq	ES
ES Cant	ES
ES_Cast	FS
FS Cata	FS
ES_Cali	ES
	ES
ES_IIIIIe	ES ES
ES_Malo	ES ES
FR_Addu	
FR_Arto	
FR_Bret	FK
FR_Cors	FK
FR_Garo	FR
FR_LOIR	FR
FR_Meus	FR
FR_Rhin	FR
FR_Rhon	FR
FR_Sein	FR
GB_Angl	GB
GB_Dee	GB
GB_Humb	GB
GB_Neag	GB
GB_NorE	GB
GB_Nort	GB
GB_NorW	GB
GB_Scot	GB
GB_Seve	GB
GB_Solw	GB
GB_SouE	GB
GB_SouW	GB
GB_Tham	GB
GB_Wale	GB
GR_CeAe	GR
GR_EaMT	GR
GR_NorW	GR

GR_WePe	GR
IE_East	IE
IE_NorW	GB
IE_NorW	IE
IE_Shan	IE
IE_SouE	IE
IE_SouW	IE
IE_West	IE
IT_Abru	IT
IT_Basi	IT
IT_Marc	IT
IT_Moli	IT
IT_Pugl	IT
IT_Sard	IT
IT_Sici	IT
IT_Tosc	IT
IT_Tren	IT
IT_Umbr	IT
LV_Latv	LV
NL_Neth	NL
PL_Danu	PL
PL_Elbe	PL
PL_Oder	PL
PL_Vist	PL
PT_Port	РТ
SE_Both	SE
SE_East	SE
SE_Inla	SE
SE_Sout	SE
SE_West	SE
VA_Lazi	VA

cou_code	cou_country	cou_order	cou_iso3code
NO	Norway	1	NOR
SE	Sweden	2	SWE
AX	Åland	3	ALA
FI	Finland	4	FIN
EE	Estonia	5	EST
LV	Latvia	6	LVA
LT	Lithuania	7	LTU
RU	Russia	8	RUS
PL	Poland	9	POL
CZ	Czech republi	10	CZE
DE	Germany	11	DEU
DK	Denmark	12	DNK
NL	Netherlands	13	NLD
BE	Belgium	14	BEL
LU	Luxembourg	15	LUX
IE	Ireland	16	IRL
GB	Great Britain	17	GBR
FR	France	18	FRA
ES	Spain	19	ESP
PT	Portugal	20	PRT
IT	Italy	21	ITA
MT	Malta	22	MLT
SI	Slovenia	23	SVN
HR	Croatia	24	HRV
BA	Bosnia-Herze	25	BIH
ME	Montenegro	26	MNE
AL	Albania	27	ALB
GR	Greece	28	GRC
TR	Turkey	34	TUR
CY	Cyprus	35	СҮР
SY	Syria	36	SYR
LB	Lebanon	37	LBN
IL	Israel	38	ISR
EG	Egypt	39	EGY
LY	Libya	40	LBY
TN	Tunisia	41	TUN
DZ	Algeria	42	DZA
MA	Morocco	43	MAR
VA	Vattican	46	VAT

- sam_id sam_samplingtype
 - 1 commercial catch
 - 2 commercial CPUE
 - 3 scientific estimate
 - 4 trapping all
 - 5 trapping partial

Fill in a data series in the catch_landings sheet, using the common set of type definitions, not all of which are relev Catches are defined as the quantity of eel that are caugh Landings are defined as the quantity of eel that are retai management unit. So, Landings should not include any e studies where they are returned alive to the waters whe

"catch_landings" sheet column headers eel_typ_id eel_year eel_value eel_missvaluequal eel_emu_nameshort eel_cou_code eel_lfs_code eel_hty_code eel_area_division eel_qal_id eel_qal_comment eel_comment e definitions found below. Note that the 'tr_typeseries_ser' sheet provides a vant to this Annex. It by fishing gears. Ined after capture, or to put it another way, removed from the water basin or els subject to assisted migration within the same river basin, or scientific re they were caught.

Explanation of header and name of sheet providing codes

type of series see tr_typeseries_ser

year

Value, note zero means 0 not no data, leave void if you want to qualify why data are missing

Qualification for missing values, only use if eel_value is null. NR not reported, NC not collected, NP not pertine Code of emu see tr_emu_emu

Code of country see tr_country_cou

Code of lifestage see tr_lifestage_lfs possible values G, Y, S, GY, YS

Code of habitat type see eel_hty_code (F=Freshwater, MO=Marine Open,T=transitional...)

Fao code ofsea region (division level) see tr_fao_area (column division)(https://github.com/ices-eg/WGEEL/w Quality levels have not been set yet

Comment on quality when processing by the wgeel

Comment on data

ent, ND no data

∕iki)

For each data series

Contact person name Contact person email address Method used to collect the data. These are comments to the WGEEL to help to understand how the data were processed. It can be a long text but keep it in the cell.



eel_typ_id	eel_year	eel_value	eel_missvalue	eel_emu_nam	eel_cou_code	eel_lfs_code

--	------	------	--

eel_hty_code	eel_area_divis	eel_qal_id	eel_qal_comn	eel_comment

typ_id	typ_name
1	Recruitment index
2	Yellow eel index
3	silver eel series
4	com_landings_kg
5	com_catch_kg
6	rec_landings_kg
7	rec_catch_kg
8	q_stock_kg
9	q_stock_n
10	gee_n
11	q_aqua_kg
12	q_aqua_n
13	BO_kg
14	Bbest_kg
15	Bcurrent_kg
16	Pristine_habitat_ha
17	SumA
18	SumF
19	SumH
20	sumF_com
21	SumF_rec
22	SumH_hydro
23	SumH_habitat
24	SumH_stocking
25	SumH_other
26	SEE_com
27	SEE rec
28	SEE_hydro
29	SEE_habitat
30	SEE_stocking
31	SEE_other

typ_description	typ_uni_code
Index of recruitment	
Index of standing stock abundance	
Index of silver eel	
Commercial landings (kg)	kg
Commercial catch (kg)	kg
Recreational landings kg)	kg
Recreational catch (kg)	kg
Stocking quantity (kg)	kg
Stocking quantity (number)	nr
Glass eel equivalents (n)	nr
Aquaculture production (kg)	kg
Aquaculture production (number)	nr
Pristine spawning of silver eel BO (kg)	kg
Maximum potential biomass of silver eel (sumA=0) (kg)	kg
Current biomass of silver eel (kg)	kg
Wetted area (ha)	ha
Lifetime anthropogenic mortality	
Lifetime fishing mortality	
Lifetime mortality hydro and pumps	
Mortality due to commercial fishery, summed over age groups in the stock.	
Mortality due to recreational fisher, summed over age groups in the stock	
Mortality due to hydropower (plus water intakes etc) summed over the age grou	ips in the stock
Mortality due to anthropogenic influence on habitat (quality/qauntity) summed	over the age gr
Mortality due to stocking summed over the age groups in the stock (rate: negative	ve rate indicate
Mortality due to other anthropogenic influence summed over the age groups in t	the stock (rate)
Commercial fishery silver eel equivalents	kg
Recreational fishery silver eel equivalents (kg)	kg
Silver eel equivalents relating to hydropower and water intakes etc	kg
Silver eel equivalents relating to anthropogenic influences on habitat (quantity/q	kg
Silver eel equivalents relating to stocking activity	kg
Silver eel equivalents from `other` sources	kg

(rate) oups in the stock (rate) s positive effect of stocking)

emu_namesh emu_name	emu_cou_code
BE_total	BE
CZ_total	CZ
DE_total	DE
DK_total	DK
EE_total	EE
FI_total	FI
VA_total	VA
PL_total	PL
SE total	SE
 LT_total	LT
_ LV total	LV
 NL_total	NL
AX total	AX
IE outside emu	IE
GB outside emu	GB
EB outside emu	FR
FS outside emu	FS
PT outside emu	PT
IT outside emu	IT.
MT outside emu	MT
SL outside emu	SI
HR outside emu	HR
BA outside emu	BΔ
ME outside emu	ME
Al outside emu	
GR outside emu	GR
NO total	NO
BE Meus	RF
BE Bhin	RF
BE_Sche	BE
CZ Elbe	C7
BLL total	BU
TR outside emu	TR
CV outside emu	CY.
SV outside emu	sv
LB outside emu	IB
Il outside emu	11
E_outside_emu	FG
LV outside emu	
TN outside emu	
D7 outside emu	N7
MA outside emu	ΜΔ
MA_outside_enid	
VA outside emu	
NO outside emu	NO
SE outside emu	SF
AX outside emu	AX
El outsido omu	FI

EE_outside_emu	EE
LV_outside_emu	LV
LT_outside_emu	LT
RU_outside_emu	RU
PL_outside_emu	PL
CZ_outside_emu	CZ
DE_outside_emu	DE
DK_outside_emu	DK
ES Nava	ES
ES Spai	ES
NL outside emu	NL
BE outside emu	BE
 IT Cala	IT
IT Camp	IT
IT Emil	IT
_ IT Frio	IT
_ IT Lazi	IT
IT Ligu	IT
IT Lomb	IT
IT Piem	IT
IT Vall	IT
IT Vene	IT
IT lith	11 1 T
	111
RA total	
HP total	ыр Пр
DZ_LOLAI	
SI_total	21
SY_total	SY
IR_total	
LB_total	LB
LY_total	LY
MT_total	MT
ME_total	ME
MA_total	MA
GR_total	GR
IE_total	IE
FR_total	FR
PT_total	PT
IT_total	IT
ES_total	ES
GB_total	GB
BE_Sein	BE
CZ_Oder	CZ
DE_Eide	DE

DE_Elbe	DE
DE_Ems	DE
DE_Maas	DE
DE_Oder	DE
DE_Rhei	DE
DE_Schl	DE
DE_Warn	DE
DE_Wese	DE
DK_Inla	DK
EE_Narv	EE
EE West	EE
ES anda	ES
ES Astu	ES
ES Bale	ES
ES Basq	ES
ES Cant	ES
ES Cast	ES
FS Cata	ES
ES_Gali	FS
ES_Dune	FS
ES_Murc	FS
ES_Wale	ES
EJ_Vale	EI
FR Adou	FR
EP Arto	ED
EP Prot	
FR_DIEL	
FR_COIS	
FR_Garo	
FR_LOIP	FR
FR_IVIEUS	FR
FR_RNIN	FR
FR_Rhon	FR
FR_Sein	FR
GB_Angl	GB
GB_Dee	GB
GB_Humb	GB
GB_Neag	GB
GB_NorE	GB
GB_Nort	GB
GB_NorW	GB
GB_Scot	GB
GB_Seve	GB
GB_Solw	GB
GB_SouE	GB
GB_SouW	GB
GB_Tham	GB
GB_Wale	GB
GR_CeAe	GR
GR_EaMT	GR
GR_NorW	GR

GR_WePe	GR
IE_East	IE
IE_NorW	GB
IE_NorW	IE
IE_Shan	IE
IE_SouE	IE
IE_SouW	IE
IE_West	IE
IT_Abru	IT
IT_Basi	IT
IT_Marc	IT
IT_Moli	IT
IT_Pugl	IT
IT_Sard	IT
IT_Sici	IT
IT_Tosc	IT
IT_Tren	IT
IT_Umbr	IT
LV_Latv	LV
NL_Neth	NL
PL_Danu	PL
PL_Elbe	PL
PL_Oder	PL
PL_Vist	PL
PT_Port	РТ
SE_Both	SE
SE_East	SE
SE_Inla	SE
SE_Sout	SE
SE_West	SE
VA_Lazi	VA

cou_code	cou_country c	ou_order	cou_iso3code
NO	Norway	1	NOR
SE	Sweden	2	SWE
AX	Åland	3	ALA
FI	Finland	4	FIN
EE	Estonia	5	EST
LV	Latvia	6	LVA
LT	Lithuania	7	LTU
RU	Russia	8	RUS
PL	Poland	9	POL
CZ	Czech republic	10	CZE
DE	Germany	11	DEU
DK	Denmark	12	DNK
NL	Netherlands	13	NLD
BE	Belgium	14	BEL
LU	Luxembourg	15	LUX
IE	Ireland	16	IRL
GB	Great Britain	17	GBR
FR	France	18	FRA
ES	Spain	19	ESP
PT	Portugal	20	PRT
IT	Italy	21	ITA
MT	Malta	22	MLT
SI	Slovenia	23	SVN
HR	Croatia	24	HRV
BA	Bosnia-Herze	25	BIH
ME	Montenegro	26	MNE
AL	Albania	27	ALB
GR	Greece	28	GRC
TR	Turkey	34	TUR
CY	Cyprus	35	СҮР
SY	Syria	36	SYR
LB	Lebanon	37	LBN
IL	Israel	38	ISR
EG	Egypt	39	EGY
LY	Libya —	40	LBY
IN	lunisia	41	IUN
DZ	Algeria	42	DZA
MA	Morocco	43	MAR
VA	Vattican	46	VAT

lfs_code	lfs_name
G	glass eel
S	silver eel
	yellow eel+
YS	silver eel
	glass eel +
GY	yellow eel

Y yellow eel

lfs_definition

Young, unpigmented eel, recruiting from the sea into continental waters. WGEEL consider the glass eel term to include all recruits of the 0+ cohort age. In some cases, however, this also includes the early pigmented stages.

Migratory phase following the yellow eel phase. Eel in this phase are characterized by darkened back, silvery belly with a clearly contrasting black lateral line, enlarged eyes and pectoral fins. Silver eel undertake downstream migration towards the sea. This phase mainly occurs in the second half of calendar years, although some are observed throughout winter and following spring.

Yellow eel defined below.

A mixture of glass and yellow eel, some traps have historical set of data where glass eel and yellow eel were not separated, although they were dominated by glass eel.

Life-stage resident in continental waters. Often defined as a sedentary phase, but migration within and between rivers, and to and from coastal waters occurs and therefore includes young pigmented eels (small eels sometimes called elvers or bootlace eels). In particular, some recruitment series either far up in the river (e.g. Meuse) or in the Baltic consist of multiple age classes of young yellow eel, typically from 1 to 10+ years of age- they are referred to as Yellow eel Recruits.

hty_code	hty_description
F	Freshwater
Т	WFD Transitional water - implies reduced salinity
С	WFD Coastal water
MO	Marine water (open sea)

fid	f_level	f_code	f_status	ocean	subocean	f_area	
227	DIVISION	21.0.A	1	Atlantic	2	2	21
230	DIVISION	21.0.B	1	Atlantic	2	2	21
228	DIVISION	21.1.A	1	Atlantic	2	2	21
229	DIVISION	21.1.B	1	Atlantic	2	2	21
231	DIVISION	21.1.C	1	Atlantic	2	2	21
195	DIVISION	21.1.D	1	Atlantic		2	21
196	DIVISION	21.1.E	1	Atlantic		2	21
198	DIVISION	21.1.F	1	Atlantic	2	2	21
197	DIVISION	21.2.G	1	Atlantic	2	2	21
199	DIVISION	21.2.H	1	Atlantic	2	2	21
235	DIVISION	21.2.J	1	Atlantic	2	2	21
234	DIVISION	21.3.K	1	Atlantic	2	2	21
239	DIVISION	21.3.L	1	Atlantic	2	2	21
200	DIVISION	21.3.M	1	Atlantic	2	2	21
218	DIVISION	21.3.N	1	Atlantic	2	2	21
201	DIVISION	21.3.0	1	Atlantic	2	2	21
240	DIVISION	21.3.P	1	Atlantic	2	2	21
238	DIVISION	21.4.R	1	Atlantic	2	2	21
233	DIVISION	21.4.S	1	Atlantic	2	2	21
243	DIVISION	21.4.T	1	Atlantic	2	2	21
219	DIVISION	21.4.V	1	Atlantic	2	2	21
232	DIVISION	21.4.W	1	Atlantic	2	2	21
241	DIVISION	21.4.X	1	Atlantic	2	2	21
242	DIVISION	21.5.Y	1	Atlantic	2	2	21
220	DIVISION	21.5.Z	1	Atlantic	2	2	21
236	DIVISION	21.6.A	1	Atlantic	2	2	21
221	DIVISION	21.6.B	1	Atlantic	2	2	21
237	DIVISION	21.6.C	1	Atlantic	2	2	21
222	DIVISION	21.6.D	1	Atlantic	2	2	21
223	DIVISION	21.6.E	1	Atlantic	2	2	21
224	DIVISION	21.6.F	1	Atlantic	2	2	21
225	DIVISION	21.6.G	1	Atlantic	2	2	21
226	DIVISION	21.6.H	1	Atlantic	2	2	21
267	DIVISION	27.1.a	1	Atlantic	2	2	27
275	DIVISION	27.1.b	1	Atlantic	2	2	27
171	DIVISION	27.10.a	1	Atlantic	2	2	27
215	DIVISION	27.10.b	1	Atlantic	2	2	27
262	DIVISION	27.12.a	1	Atlantic	2	2	27
116	DIVISION	27.12.b	1	Atlantic	2	2	27
253	DIVISION	27.12.c	1	Atlantic	2	2	27
268	DIVISION	27.14.a	1	Atlantic	2	2	27
264	DIVISION	27.14.b	1	Atlantic	2	2	27
265	DIVISION	27.2.a	1	Atlantic	2	2	27
266	DIVISION	27.2.b	1	Atlantic	2	2	27
277	DIVISION	27.3.a	1	Atlantic	2	2	27
258	DIVISION	27.3.b, c	1	Atlantic	2	2	27
257	DIVISION	27.3.d	1	Atlantic	2	2	27
274	DIVISION	27.4.a	1	Atlantic	2	2	27
259	DIVISION	27.4.b	1	Atlantic	2	2	27

255 DIVI	SION	27.4.c	1 Atlantic	2	27
263 DIVI	SION	27.5.a	1 Atlantic	2	27
261 DIVI	SION	27.5.b	1 Atlantic	2	27
271 DIVI	SION	27.6.a	1 Atlantic	2	27
260 DIVI	SION	27.6.b	1 Atlantic	2	27
273 DIVI	SION	27.7.a	1 Atlantic	2	27
272 DIVI	SION	27.7.b	1 Atlantic	2	27
256 DIVI	SION	27.7.c	1 Atlantic	2	27
270 DIVI	SION	27.7.d	1 Atlantic	2	27
269 DIVI	SION	27.7.e	1 Atlantic	2	27
251 DIVI	SION	27.7.f	1 Atlantic	2	27
252 DIVI	SION	27.7.g	1 Atlantic	2	27
250 DIVI	SION	27.7.h	1 Atlantic	2	27
249 DIVI	SION	27.7.i	1 Atlantic	2	27
254 DIVI	SION	27.7 k	1 Atlantic	2	27
248 DIVI	SION	27.8 a	1 Atlantic	2	27
		27.8 h	1 Atlantic	2	27
		27.0.0 27.8 c	1 Atlantic	2	27
		27.8.d	1 Atlantic	2	27
		27.0.u	1 Atlantic	2	27
		27.0.0	1 Atlantic	2	27
		27.5.d	1 Atlantic	2	27
		27.9.0	1 Atlantic	2	27
		34.1.1 24.1.2	1 Atlantic	с С	54 24
		34.1.2	1 Atlantic	3	34 24
126 DIVI:	SION	34.1.3	1 Atlantic	3	34
134 DIVI:	SION	34.3.1	1 Atlantic	3	34
132 DIVI:	SION	34.3.2	1 Atlantic	3	34
142 DIVIS	SION	34.3.3	1 Atlantic	3	34
144 DIVI	SION	34.3.4	1 Atlantic	3	34
145 DIVI	SION	34.3.5	1 Atlantic	3	34
178 DIVI	SION	34.3.6	1 Atlantic	3	34
158 DIVI	SION	34.4.1	1 Atlantic	3	34
131 DIVI	SION	34.4.2	1 Atlantic	3	34
177 DIVI	SION	37.1.1	1 Atlantic	3	37
114 DIVI	SION	37.1.2	1 Atlantic	3	37
115 DIVI	SION	37.1.3	1 Atlantic	3	37
117 DIVI	SION	37.2.1	1 Atlantic	3	37
118 DIVI	SION	37.2.2	1 Atlantic	3	37
119 DIVI	SION	37.3.1	1 Atlantic	3	37
121 DIVI	SION	37.3.2	1 Atlantic	3	37
120 DIVI	SION	37.4.1	1 Atlantic	3	37
112 DIVI	SION	37.4.2	1 Atlantic	3	37
113 DIVI	SION	37.4.3	1 Atlantic	3	37
148 DIVI	SION	41.1.1	1 Atlantic	4	41
150 DIVI	SION	41.1.2	1 Atlantic	4	41
151 DIVI	SION	41.1.3	1 Atlantic	4	41
157 DIVI	SION	41.1.4	1 Atlantic	4	41
156 DIVI	SION	41.2.1	1 Atlantic	4	41
163 DIVI	SION	41.2.2	1 Atlantic	4	41
175 DIVI	SION	41.2.3	1 Atlantic	4	41

169 DIVISION	41.2.4	1 Atlantic	4	41
176 DIVISION	41.3.1	1 Atlantic	4	41
189 DIVISION	41.3.2	1 Atlantic	4	41
170 DIVISION	41.3.3	1 Atlantic	4	41
202 DIVISION	47.1.1	1 Atlantic	4	47
203 DIVISION	47.1.2	1 Atlantic	4	47
208 DIVISION	47.1.3	1 Atlantic	4	47
209 DIVISION	47.1.4	1 Atlantic	4	47
210 DIVISION	47.1.5	1 Atlantic	4	47
211 DIVISION	47.1.6	1 Atlantic	4	47
207 DIVISION	47.2.1	1 Atlantic	4	47
206 DIVISION	47.2.2	1 Atlantic	4	47
193 DIVISION	47.A.0	1 Atlantic	4	47
194 DIVISION	47.A.1	1 Atlantic	4	47
247 DIVISION	47.B.0	1 Atlantic	4	47
245 DIVISION	47.B.1	1 Atlantic	4	47
204 DIVISION	47.C.0	1 Atlantic	4	47
246 DIVISION	47.C.1	1 Atlantic	4	47
205 DIVISION	47.D.0	1 Atlantic	4	47
244 DIVISION	47.D.1	1 Atlantic	4	47
152 DIVISION	57.5.1	1 Indian	5	57
159 DIVISION	57.5.2	1 Indian	5	57
191 DIVISION	58.4.1	1 Indian	10	58
190 DIVISION	58.4.2	1 Indian	10	58
192 DIVISION	58.4.3	1 Indian	10	58
174 DIVISION	58.4.4	1 Indian	10	58
168 DIVISION	58.5.1	1 Indian	10	58
173 DIVISION	58.5.2	1 Indian	10	58
133 DIVISION	71.6.1	1 Pacific	7	71
130 DIVISION	71.6.2	1 Pacific	7	71
143 DIVISION	87.1.1	1 Pacific	8	87
146 DIVISION	87.1.2	1 Pacific	8	87
149 DIVISION	87.1.3	1 Pacific	8	87
147 DIVISION	87.1.4	1 Pacific	8	87
155 DIVISION	87.2.1	1 Pacific	8	87
154 DIVISION	87.2.2	1 Pacific	8	87
160 DIVISION	87.2.3	1 Pacific	8	87
164 DIVISION	87.2.4	1 Pacific	8	87
162 DIVISION	87.2.5	1 Pacific	8	87
153 DIVISION	87.2.6	1 Pacific	8	87
167 DIVISION	87.3.1	1 Pacific	8	87
166 DIVISION	87.3.2	1 Pacific	8	87
165 DIVISION	87.3.3	1 Pacific	8	87

f_subarea	f_division
21	21.0.A
21	21.0.B
21.1	21.1.A
21.1	21.1.B
21.1	21.1.C
21.1	21.1.D
21.1	21.1.E
21.1	21.1.F
21.2	21.2.G
21.2	21.2.H
21.2	21.2.J
21.3	21.3.K
21.3	21.3.L
21.3	21.3.M
21.3	21.3.N
21.3	21.3.0
21.3	21.3.P
21.4	21.4.R
21.4	21.4.S
21.4	21.4.T
21.4	21.4.V
21.4	21.4.W
21.4	21.4.X
21.5	21.5.Y
21.5	21.5.2
21.6	21.6.A
21.0	21.0.B
21.0	21.0.C
21.0	21.0.D 21.6 F
21.0	21.0.L 21.6 F
21.0	21.0.1
21.0	21.0.0 21.6 H
21.0	27.0.11 27.1 a
27.1	27.1.u 27.1 h
27.1	27.10.a
27.1	27.10.b
27.12	27.12.a
27.12	27.12.b
27.12	27.12.c
27.14	27.14.a
27.14	27.14.b
27.2	27.2.a
27.2	27.2.b
27.3	27.3.a
27.3	27.3.b, c
27.3	27.3.d
27.4	27.4.a
27.4	27.4.b

27.4	27.4.c
27.5	27.5.a
27.5	27.5.b
27.6	27.6.a
27.6	27.6.b
27.7	27.7.a
27.7	27.7.b
27.7	27.7.c
27.7	27.7.d
27.7	27.7.e
27.7	27.7.f
27.7	27.7.g
27.7	27.7.h
27.7	277i
27.7	27.7 k
27.8	27.8 a
27.8	27.8 h
27.0	27.0.0 27.8 c
27.0	27.0.C
27.0	27.0.U
27.0	27.0.0
27.9	27.3.a
27.9	27.9.0
54.1	54.1.1 24.1.2
34.1	34.1.2
34.1	34.1.3
34.3	34.3.1
34.3	34.3.2
34.3	34.3.3
34.3	34.3.4
34.3	34.3.5
34.3	34.3.6
34.4	34.4.1
34.4	34.4.2
37.1	37.1.1
37.1	37.1.2
37.1	37.1.3
37.2	37.2.1
37.2	37.2.2
37.3	37.3.1
37.3	37.3.2
37.4	37.4.1
37.4	37.4.2
37.4	37.4.3
41.1	41.1.1
41.1	41.1.2
41.1	41.1.3
41.1	41.1.4
41.2	41.2.1
41.2	41.2.2
41.2	41.2.3

	41.2	41.2.4
	41.3	41.3.1
	41.3	41.3.2
	41.3	41.3.3
	47.1	47.1.1
	47.1	47.1.2
	47.1	47.1.3
	47.1	47.1.4
	47.1	47.1.5
	47.1	47.1.6
	47.2	47.2.1
	47.2	47.2.2
47.A		47.A.0
47.A		47.A.1
47.B		47.B.0
47.B		47.B.1
47.C		47.C.0
47.C		47.C.1
47.D		47.D.0
47.D		47.D.1
	57.5	57.5.1
	57.5	57.5.2
	58.4	58.4.1
	58.4	58.4.2
	58.4	58.4.3
	58.4	58.4.4
	58.5	58.5.1
	58.5	58.5.2
_71.6		71.6.1
_71.6		71.6.2
	87.1	87.1.1
	87.1	87.1.2
	87.1	87.1.3
	87.1	87.1.4
	87.2	87.2.1
	87.2	87.2.2
	87.2	87.2.3
	87.2	87.2.4
	87.2	87.2.5
	87.2	87.2.6
	87.3	87.3.1
	87.3	87.3.2
	87.3	87.3.3

qal_id qal_level qal_text

Thees cells do not need any information in 2017. Instructions will accompany the request in 2018.

Short definition	Longer definition
	data or activity exist but numbers are not reported to
not reported	authorities (for example for commercial confidentiality reasons).
	where there are insufficient data to estimate a derived
no data	parameter (for example where there are insufficient data to estimate the stock indicators (biomass and/or mortality)).
not collected	activity / habitat exists but data 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).
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).
	Short definition not reported no data not collected not pertinent

Fill in a data series in the restocking sheet, common set of type definitions, not all of v

catch_landings sheet column headers eel_typ_id eel_year eel_value eel_missvaluequal eel_emu_nameshort eel_cou_code eel_lfs_code eel_hty_code eel_area_division eel_qal_id eel_qal_comment eel_comment
, using the definitions found below. Note that the 'tr_typeseries_ser' sheet provides a *w*hich are relevant to this Annex.

Explanation of header and name of sheet providing codes

type of series see tr_typeseries_ser

year

Value, note zero means 0 not no data, leave void if you want to qualify why data are missing

Qualification for missing values, only use if eel_value is null. NR not reported, NC not collected, NP not pertine Code of emu see tr_emu_emu

Code of country see tr_country_cou

Code of lifestage see tr_lifestage_lfs possible values G, Y, S, GY, YS

Code of habitat type see eel_hty_code (F=Freshwater, MO=Marine Open,T=transitional...)

Fao code ofsea region (division level) see tr_fao_area (column division)(https://github.com/ices-eg/WGEEL/w Quality levels have not been set yet

Comment on quality when processing by the wgeel

Comment on data

ent, ND no data

∕iki)

For each data series

Contact person name Contact person email address Method used to collect the data. These are comments to the WGEEL to help to understand how the data were processed. It can be a long text but keep it in the cell.



eel_typ_id	eel_year	eel_value	eel_missvalue	eel_emu_nam	eel_cou_code	eel_lfs_code

eel_hty_code	eel_area_divis	eel_qal_id	eel_qal_comn	eel_comment

typ_id	typ_name	typ_description	typ_uni_code
	1 Recruitment index	Index of recruitment	
	2 Yellow eel index	Index of standing stock abunda	nce
	3 silver eel series	Index of silver eel	
	4 com_landings_kg	Commercial landings (kg)	kg
	5 com_catch_kg	Commercial catch (kg)	kg
	6 rec_landings_kg	Recreational landings kg)	kg
	7 rec_catch_kg	Recreational catch (kg)	kg
	8 q_stock_kg	Stocking quantity (kg)	kg
	9 q_stock_n	Stocking quantity (number)	nr
	10 gee_n	Glass eel equivalents (n)	nr
	11 q_aqua_kg	Aquaculture production (kg)	kg
	12 q_aqua_n	Aquaculture production (numbe	e nr
	13 BO_kg	Pristine spawning of silver eel B	C kg
	14 Bbest_kg	Maximum potential biomass of	skg
	15 Bcurrent_kg	Current biomass of silver eel (kg	gʻkg
	16 Pristine_habitat_ha	Wetted area (ha)	ha
	17 SumA	Lifetime anthropogenic mortali	ty
	18 SumF	Lifetime fishing mortality	
	19 SumH	Lifetime mortality hydro and pu	mps
	20 sumF_com	Mortality due to commercial fis	hery, summed over age group
	21 SumF_rec	Mortality due to recreational fis	sher, summed over age groups
	22 SumH_hydro	Mortality due to hydropower (p	lus water intakes etc) summe
	23 SumH_habitat	Mortality due to anthropogenic	influence on habitat (quality/
	24 SumH_stocking	Mortality due to stocking summ	ned over the age groups in the
	25 SumH_other	Mortality due to other anthropo	ogenic influence summed over
	26 SEE_com	Commercial fishery silver eel eq	it kg
	27 SEE rec	Recreational fishery silver eel e	q kg
	28 SEE_hydro	Silver eel equivalents relating to	kg
	29 SEE_habitat	Silver eel equivalents relating to) Kg
	30 SEE_STOCKINg	Silver eel equivalents relating to) Kg
	31 SEE_OTNER	Silver eel equivalents from othe	екд

is in the stock.
in the stock
d over the age groups in the stock (rate)
qauntity) summed over the age groups in the stock (rate)
stock (rate: negative rate indicates positive effect of stocking)
r the age groups in the stock (rate)

emu_namesh emu_name	emu_cou_code
BE_total	BE
CZ_total	CZ
DE_total	DE
DK_total	DK
EE_total	EE
FI_total	FI
VA_total	VA
PL_total	PL
SE total	SE
 LT_total	LT
_ LV total	LV
 NL_total	NL
AX total	AX
IE outside emu	IE
GB outside emu	GB
EB outside emu	FR
FS outside emu	FS
PT outside emu	PT
IT outside emu	IT IT
MT outside emu	MT
SL outside emu	SI
HR outside emu	HR
BA outside emu	BΔ
ME outside emu	ME
Al outside emu	
GR outside emu	GR
NO total	NO
BE Meus	RF
BE Bhin	RE
BE_Sche	BE
CZ Elbe	C7
BLL total	BU
TR outside emu	TR
CV outside emu	CY.
SV outside emu	sv
LB outside emu	IB
Il outside emu	11
E_outside_emu	FG
LV outside emu	
TN outside emu	
D7 outside emu	N7
MA outside emu	ΜΔ
III outside emu	
VA outside emu	
NO outside emu	NO
SE outside emu	SF
AX outside emu	AX
El outsido omu	FI

EE_outside_emu	EE
LV_outside_emu	LV
LT_outside_emu	LT
RU_outside_emu	RU
PL_outside_emu	PL
CZ_outside_emu	CZ
DE_outside_emu	DE
DK_outside_emu	DK
ES Nava	ES
ES Spai	ES
NL outside emu	NL
BE outside emu	BE
 IT Cala	IT
IT Camp	IT
IT Emil	IT
_ IT Frio	IT
_ IT Lazi	IT
IT Ligu	IT
IT Lomb	IT
IT Piem	IT
IT Vall	IT
IT Vene	IT
IT lith	11 1 T
	111
RA total	
HP total	ыр Пр
DZ_LOLAI	
SI_total	21
SY_total	SY
IR_total	
LB_total	LB
LY_total	LY
MT_total	MT
ME_total	ME
MA_total	MA
GR_total	GR
IE_total	IE
FR_total	FR
PT_total	PT
IT_total	IT
ES_total	ES
GB_total	GB
BE_Sein	BE
CZ_Oder	CZ
DE_Eide	DE

DE_Elbe	DE
DE_Ems	DE
DE_Maas	DE
DE_Oder	DE
DE_Rhei	DE
DE_Schl	DE
DE_Warn	DE
DE_Wese	DE
DK_Inla	DK
EE Narv	EE
 EE_West	EE
 ES_anda	ES
ES Astu	ES
ES Bale	ES
FS Base	FS
FS Cant	FS
ES_Cast	FS
ES_Cata	
ES_Gall	
	ES EC
ES_Vale	ES
FR_Adou	FR
FR_Arto	FR
FR_Bret	FR
FR_Cors	FR
FR_Garo	FR
FR_Loir	FR
FR_Meus	FR
FR_Rhin	FR
FR_Rhon	FR
FR_Sein	FR
GB_Angl	GB
GB_Dee	GB
GB_Humb	GB
GB_Neag	GB
GB_NorE	GB
GB_Nort	GB
GB_NorW	GB
GB Scot	GB
GB_Seve	GB
GB Shan	GB
GB Solw	GB
GB SouE	GB
GB SouW	GB
GB Tham	GB
GB Wale	GB
GR CeAe	GR
GR EaMT	GR
<u> </u>	

This EMU does not exist.

GR_NorW	GR
GR_WePe	GR
IE_East	IE
IE_NorW	GB
IE_NorW	IE
IE_Shan	IE
IE_SouE	IE
IE_SouW	IE
IE_West	IE
IT_Abru	IT
IT_Basi	IT
IT_Marc	IT
IT_Moli	IT
IT_Pugl	IT
IT_Sard	IT
IT_Sici	IT
IT_Tosc	IT
IT_Tren	IT
IT_Umbr	IT
LV_Latv	LV
NL_Neth	NL
PL_Danu	PL
PL_Elbe	PL
PL_Oder	PL
PL_Vist	PL
PT_Port	ΡT
SE_Both	SE
SE_East	SE
SE_Inla	SE
SE_Sout	SE
SE_West	SE
VA_Lazi	VA

cou_code	cou_country c	ou_order	cou_iso3code
NO	Norway	1	NOR
SE	Sweden	2	SWE
AX	Åland	3	ALA
FI	Finland	4	FIN
EE	Estonia	5	EST
LV	Latvia	6	LVA
LT	Lithuania	7	LTU
RU	Russia	8	RUS
PL	Poland	9	POL
CZ	Czech republic	10	CZE
DE	Germany	11	DEU
DK	Denmark	12	DNK
NL	Netherlands	13	NLD
BE	Belgium	14	BEL
LU	Luxembourg	15	LUX
IE	Ireland	16	IRL
GB	Great Britain	17	GBR
FR	France	18	FRA
ES	Spain	19	ESP
PT	Portugal	20	PRT
IT	Italy	21	ITA
MT	Malta	22	MLT
SI	Slovenia	23	SVN
HR	Croatia	24	HRV
BA	Bosnia-Herzeg	25	BIH
ME	Montenegro	26	MNE
AL	Albania	27	ALB
GR	Greece	28	GRC
TR	Turkey	34	TUR
CY	Cyprus	35	СҮР
SY	Syria	36	SYR
LB	Lebanon	37	LBN
IL	Israel	38	ISR
EG	Egypt	39	EGY
LY	цвуа т	40	LBA
	i unisia	41	IUN
	Algeria	42	
MA	Norocco	43	
VA	Vattican	46	VAI

lfs_code	lfs_name
G	glass eel
S	silver eel vellow eel+ silver
YS	eel
GY	glass eel + yellow eel

Y	yellow eel
	ongrown glass
OG	eel
	Quarantined
QG	glass eel

lfs_definition

Young, unpigmented eel, recruiting from the sea into continental waters. WGEEL consider the glass eel term to include all recruits of the 0+ cohort age. In some cases, however, this also includes the early pigmented stages.

Migratory phase following the yellow eel phase. Eel in this phase are characterized by darkened back, silvery belly with a clearly contrasting black lateral line, enlarged eyes and pectoral fins. Silver eel undertake downstream migration towards the sea. This phase mainly occurs in the second half of calendar years, although some are observed throughout winter and following spring.

Yellow eel defined below.

A mixture of glass and yellow eel, some traps have historical set of data where glass eel and yellow eel were not separated, although they were dominated by glass eel.

Life-stage resident in continental waters. Often defined as a sedentary phase, but migration within and between rivers, and to and from coastal waters occurs and therefore includes young pigmented eels (small eels sometimes called elvers or bootlace eels). In particular, some recruitment series either far up in the river (e.g. Meuse) or in the Baltic consist of multiple age classes of young yellow eel, typically from 1 to 10+ years of age- they are referred to as Yellow eel Recruits.

hty_code	hty_description
F	Freshwater
Т	WFD Transitional water - implies reduced salinity
С	WFD Coastal water
MO	Marine water (open sea)

fid	f_level	f_code	f_status	ocean	subocean	f_area	
227	DIVISION	21.0.A	1	Atlantic	2	2	21
230	DIVISION	21.0.B	1	Atlantic	2	2	21
228	DIVISION	21.1.A	1	Atlantic	2	2	21
229	DIVISION	21.1.B	1	Atlantic	2	2	21
231	DIVISION	21.1.C	1	Atlantic	2	2	21
195	DIVISION	21.1.D	1	Atlantic		2	21
196	DIVISION	21.1.E	1	Atlantic		2	21
198	DIVISION	21.1.F	1	Atlantic	2	2	21
197	DIVISION	21.2.G	1	Atlantic	2	2	21
199	DIVISION	21.2.H	1	Atlantic	2	2	21
235	DIVISION	21.2.J	1	Atlantic	2	2	21
234	DIVISION	21.3.K	1	Atlantic	2	2	21
239	DIVISION	21.3.L	1	Atlantic	2	2	21
200	DIVISION	21.3.M	1	Atlantic	2	2	21
218	DIVISION	21.3.N	1	Atlantic	2	2	21
201	DIVISION	21.3.0	1	Atlantic	2	2	21
240	DIVISION	21.3.P	1	Atlantic	2	2	21
238	DIVISION	21.4.R	1	Atlantic	2	2	21
233	DIVISION	21.4.S	1	Atlantic	2	2	21
243	DIVISION	21.4.T	1	Atlantic	2	2	21
219	DIVISION	21.4.V	1	Atlantic	2	2	21
232	DIVISION	21.4.W	1	Atlantic	2	2	21
241	DIVISION	21.4.X	1	Atlantic	2	2	21
242	DIVISION	21.5.Y	1	Atlantic	2	2	21
220	DIVISION	21.5.Z	1	Atlantic	2	2	21
236	DIVISION	21.6.A	1	Atlantic	2	<u>2</u>	21
221	DIVISION	21.6.B	1	Atlantic	2	2	21
237	DIVISION	21.6.C	1	Atlantic	2	<u>2</u>	21
222	DIVISION	21.6.D	1	Atlantic	2	<u>2</u>	21
223	DIVISION	21.6.E	1	Atlantic	2	2	21
224	DIVISION	21.6.F	1	Atlantic	2	2	21
225	DIVISION	21.6.G	1	Atlantic	2	2	21
226	DIVISION	21.6.H	1	Atlantic	2	2	21
267	DIVISION	27.1.a	1	Atlantic	2	2	27
275	DIVISION	27.1.b	1	Atlantic	2	2	27
171	DIVISION	27.10.a	1	Atlantic	2	2	27
215	DIVISION	27.10.b	1	Atlantic	2	2	27
262	DIVISION	27.12.a	1	Atlantic	2	2	27
116	DIVISION	27.12.b	1	Atlantic	2	2	27
253	DIVISION	27.12.c	1	Atlantic	2	2	27
268	DIVISION	27.14.a	1	Atlantic	2	2	27
264	DIVISION	27.14.b	1	Atlantic	2	2	27
265	DIVISION	27.2.a	1	Atlantic	2	2	27
266	DIVISION	27.2.b	1	Atlantic	2	2	27
277	DIVISION	27.3.a	1	Atlantic		2	27
258	DIVISION	27.3.b, c	1	Atlantic		2	27
257	DIVISION	27.3.d	1	Atlantic	2	2	27
274	DIVISION	27.4.a	1	Atlantic		2	27
259	DIVISION	27.4.b	1	Atlantic	2	<u>2</u>	27

255 DIVISION	27.4.c	1 Atlantic	2	27
263 DIVISION	27.5.a	1 Atlantic	2	27
261 DIVISION	27.5.b	1 Atlantic	2	27
271 DIVISION	27.6.a	1 Atlantic	2	27
260 DIVISION	27.6.b	1 Atlantic	2	27
273 DIVISION	27.7.a	1 Atlantic	2	27
272 DIVISION	27.7.b	1 Atlantic	2	27
256 DIVISION	27.7.c	1 Atlantic	2	27
270 DIVISION	27.7.d	1 Atlantic	2	27
269 DIVISION	27.7.e	1 Atlantic	2	27
251 DIVISION	27.7.f	1 Atlantic	2	27
252 DIVISION	27.7.g	1 Atlantic	2	27
250 DIVISION	27.7.h	1 Atlantic	2	27
249 DIVISION	27.7.i	1 Atlantic	- 2	27
254 DIVISION	27.7 k	1 Atlantic	2	27
	27.8 a	1 Atlantic	2	27
	27.8.b	1 Atlantic	2	27
	27.8.6	1 Atlantic	2	27
	27.8.C	1 Atlantic	2	27
	27.8.0	1 Atlantic	2	27
	27.8.6	1 Atlantic	2	27
	27.9.a	1 Atlantic	2	27
	27.9.D 24.1.1	1 Atlantic	2	27
	54.1.1 24.1.2	1 Atlantic	5	54 24
	34.1.2		3	34
126 DIVISION	34.1.3	1 Atlantic	3	34
134 DIVISION	34.3.1	1 Atlantic	3	34
132 DIVISION	34.3.2	1 Atlantic	3	34
142 DIVISION	34.3.3	1 Atlantic	3	34
144 DIVISION	34.3.4	1 Atlantic	3	34
145 DIVISION	34.3.5	1 Atlantic	3	34
178 DIVISION	34.3.6	1 Atlantic	3	34
158 DIVISION	34.4.1	1 Atlantic	3	34
131 DIVISION	34.4.2	1 Atlantic	3	34
177 DIVISION	37.1.1	1 Atlantic	3	37
114 DIVISION	37.1.2	1 Atlantic	3	37
115 DIVISION	37.1.3	1 Atlantic	3	37
117 DIVISION	37.2.1	1 Atlantic	3	37
118 DIVISION	37.2.2	1 Atlantic	3	37
119 DIVISION	37.3.1	1 Atlantic	3	37
121 DIVISION	37.3.2	1 Atlantic	3	37
120 DIVISION	37.4.1	1 Atlantic	3	37
112 DIVISION	37.4.2	1 Atlantic	3	37
113 DIVISION	37.4.3	1 Atlantic	3	37
148 DIVISION	41.1.1	1 Atlantic	4	41
150 DIVISION	41.1.2	1 Atlantic	4	41
151 DIVISION	41.1.3	1 Atlantic	4	41
157 DIVISION	41.1.4	1 Atlantic	4	41
156 DIVISION	41.2.1	1 Atlantic	4	41
163 DIVISION	41.2.2	1 Atlantic	4	41
175 DIVISION	41.2.3	1 Atlantic	4	41
169 DIVISION	41.2.4	1 Atlantic	4	41
--------------	--------	------------	----	----
176 DIVISION	41.3.1	1 Atlantic	4	41
189 DIVISION	41.3.2	1 Atlantic	4	41
170 DIVISION	41.3.3	1 Atlantic	4	41
202 DIVISION	47.1.1	1 Atlantic	4	47
203 DIVISION	47.1.2	1 Atlantic	4	47
208 DIVISION	47.1.3	1 Atlantic	4	47
209 DIVISION	47.1.4	1 Atlantic	4	47
210 DIVISION	47.1.5	1 Atlantic	4	47
211 DIVISION	47.1.6	1 Atlantic	4	47
207 DIVISION	47.2.1	1 Atlantic	4	47
206 DIVISION	47.2.2	1 Atlantic	4	47
193 DIVISION	47.A.0	1 Atlantic	4	47
194 DIVISION	47.A.1	1 Atlantic	4	47
247 DIVISION	47.B.0	1 Atlantic	4	47
245 DIVISION	47.B.1	1 Atlantic	4	47
204 DIVISION	47.C.0	1 Atlantic	4	47
246 DIVISION	47.C.1	1 Atlantic	4	47
205 DIVISION	47.D.0	1 Atlantic	4	47
244 DIVISION	47.D.1	1 Atlantic	4	47
152 DIVISION	57.5.1	1 Indian	5	57
159 DIVISION	57.5.2	1 Indian	5	57
191 DIVISION	58.4.1	1 Indian	10	58
190 DIVISION	58.4.2	1 Indian	10	58
192 DIVISION	58.4.3	1 Indian	10	58
174 DIVISION	58.4.4	1 Indian	10	58
168 DIVISION	58.5.1	1 Indian	10	58
173 DIVISION	58.5.2	1 Indian	10	58
133 DIVISION	71.6.1	1 Pacific	7	71
130 DIVISION	71.6.2	1 Pacific	7	71
143 DIVISION	87.1.1	1 Pacific	8	87
146 DIVISION	87.1.2	1 Pacific	8	87
149 DIVISION	87.1.3	1 Pacific	8	87
147 DIVISION	87.1.4	1 Pacific	8	87
155 DIVISION	87.2.1	1 Pacific	8	87
154 DIVISION	87.2.2	1 Pacific	8	87
160 DIVISION	87.2.3	1 Pacific	8	87
164 DIVISION	87.2.4	1 Pacific	8	87
162 DIVISION	87.2.5	1 Pacific	8	87
153 DIVISION	87.2.6	1 Pacific	8	87
167 DIVISION	87.3.1	1 Pacific	8	87
166 DIVISION	87.3.2	1 Pacific	8	87
165 DIVISION	87.3.3	1 Pacific	8	87

f_subarea	f_division
21	21.0.A
21	21.0.B
21.1	21.1.A
21.1	21.1.B
21.1	21.1.C
21.1	21.1.D
21.1	21.1.E
21.1	21.1.F
21.2	21.2.G
21.2	21.2.H
21.2	21.2.J
21.3	21.3.K
21.3	21.3.L
21.3	21.3.M
21.3	21.3.N
21.3	21.3.0
21.3	21.3.P
21.4	21.4.R
21.4	21.4.S
21.4	21.4.T
21.4	21.4.V
21.4	21.4.W
21.4	21.4.X
21.5	21.5.Y
21.5	21.5.Z
21.6	21.6.A
21.6	21.6.B
21.6	21.6.C
21.6	21.6.D
21.6	21.0.E
21.0	21.0.F
21.0	21.0.G
21.0	21.0.n 27.1 a
27.1	27.1.a 27.1 h
27.1	27.1.0 27.10 a
27.1	27.10.a 27.10.h
27.1	27.10.0 27.12 a
27.12	27.12.u 27.12 h
27.12	27.12.c
27.14	27.14.a
27.14	27.14.b
27.2	27.2.a
27.2	27.2.b
27.3	27.3.a
27.3	27.3.b, c
27.3	27.3.d
27.4	27.4.a
27.4	27.4.b

27.4	27.4.c
27.5	27.5.a
27.5	27.5.b
27.6	27.6.a
27.6	27.6.b
27.7	27.7.a
27.7	27.7.b
27.7	27.7.c
27.7	27.7.d
27.7	27.7.e
27.7	27.7.f
27.7	27.7.g
27.7	27.7.h
27.7	277i
27.7	27.7 k
27.8	27.8 a
27.8	27.8 h
27.0	27.0.0 27.8 c
27.0	27.0.C
27.0	27.0.U
27.0	27.0.0
27.9	27.5.a
27.9	27.9.0
54.1	54.1.1 24.1.2
34.1	34.1.2
34.1	34.1.3
34.3	34.3.1
34.3	34.3.2
34.3	34.3.3
34.3	34.3.4
34.3	34.3.5
34.3	34.3.6
34.4	34.4.1
34.4	34.4.2
37.1	37.1.1
37.1	37.1.2
37.1	37.1.3
37.2	37.2.1
37.2	37.2.2
37.3	37.3.1
37.3	37.3.2
37.4	37.4.1
37.4	37.4.2
37.4	37.4.3
41.1	41.1.1
41.1	41.1.2
41.1	41.1.3
41.1	41.1.4
41.2	41.2.1
41.2	41.2.2
41.2	41.2.3

	41.2	41.2.4
	41.3	41.3.1
	41.3	41.3.2
	41.3	41.3.3
	47.1	47.1.1
	47.1	47.1.2
	47.1	47.1.3
	47.1	47.1.4
	47.1	47.1.5
	47.1	47.1.6
	47.2	47.2.1
	47.2	47.2.2
47.A		47.A.0
47.A		47.A.1
47.B		47.B.0
47.B		47.B.1
47.C		47.C.0
47.C		47.C.1
47.D		47.D.0
47.D		47.D.1
	57.5	57.5.1
	57.5	57.5.2
	58.4	58.4.1
	58.4	58.4.2
	58.4	58.4.3
	58.4	58.4.4
	58.5	58.5.1
	58.5	58.5.2
_71.6		71.6.1
_71.6		71.6.2
	87.1	87.1.1
	87.1	87.1.2
	87.1	87.1.3
	87.1	87.1.4
	87.2	87.2.1
	87.2	87.2.2
	87.2	87.2.3
	87.2	87.2.4
	87.2	87.2.5
	87.2	87.2.6
	87.3	87.3.1
	87.3	87.3.2
	87.3	87.3.3

qal_id qal_level qal_text

No information required in 2017.

Code	Short definition	Longer definition
		data or activity exist but numbers are not reported to
		authorities (for example for commercial confidentiality
NR	not reported	reasons).
		where there are insufficient data to estimate a derived
		parameter (for example where there are insufficient data to
ND	no data	estimate the stock indicators (biomass and/or mortality)).
		activity / habitat exists but data are not collected by authorities
		(for example where a fishery exists but the catch data are not
NC	not collected	collected at the relevant level or at all).
		where the question asked does not apply to the individual case
		(for example where catch data are absent as there is no fishery
NP	not pertinent	or where a habitat type does not exist in an EMU).

tvp id	typ name	typ descriptic typ uni code
·//·	1 Recruitment index	Index of recruitment
	2 Yellow eel index	Index of standing stock abundance
	3 silver eel series	Index of silver eel
	4 com landings kg	Commercial la kg
	5 com catch kg	Commercial c kg
	6 rec landings kg	Recreational l kg
	7 rec catch kg	Recreational ckg
	8 g stock kg	Stocking quan kg
	9 g stock n	Stocking quan nr
	10 gee n	Glass eel equi nr
	11 q_aqua_kg	Aquaculture p kg
	12 q_aqua_n	Aquaculture p nr
	13 BO_kg	Pristine spawı kg
	14 Bbest_kg	Maximum pot kg
	15 Bcurrent_kg	Current biomakg
	16 Pristine_habitat_ha	Wetted area (ha
	17 SumA	Lifetime anthropogenic mortality
	18 SumF	Lifetime fishing mortality
	19 SumH	Lifetime mortality hydro and pumps
	20 sumF_com	Mortality due to commercial fishery, summed over a
	21 SumF_rec	Mortality due to recreational fisher, summed over ag
	22 SumH_hydro	Mortality due to hydropower (plus water intakes etc
	23 SumH_habitat	Mortality due to anthropogenic influence on habitat
	24 SumH_stocking	Mortality due to stocking summed over the age grou
	25 SumH_other	Mortality due to other anthropogenic influence sum
	26 SEE_com	Commercial fi kg
	27 SEE rec	Recreational f kg
	28 SEE_hydro	Silver eel equi kg
	29 SEE_habitat	Silver eel equi kg
	30 SEE_stocking	Silver eel equi kg
	31 SEE_other	Silver eel equi kg

roups in the stock. oups in the stock nmed over the age groups in the stock (rate) lity/qauntity) summed over the age groups in the stock (rate) the stock (rate: negative rate indicates positive effect of stocking) over the age groups in the stock (rate) Fill in a data series in the aquaculture shee common set of type definitions, not all of ν

catch_landings sheet column headers eel_typ_id eel_year eel_value eel_missvaluequal eel_emu_nameshort eel_cou_code eel_lfs_code eel_hty_code eel_area_division eel_qal_id eel_qal_comment eel_comment et, using the definitions found below. Note that the 'tr_typeseries_ser' sheet provides a *w*hich are relevant to this Annex.

Explanation of header and name of sheet providing codes

type of series see tr_typeseries_ser

year

Value, note zero means 0 not no data, leave void if you want to qualify why data are missing

Qualification for missing values, only use if eel_value is null. NR not reported, NC not collected, NP not pertine Code of emu see tr_emu_emu

Code of country see tr_country_cou

Code of lifestage see tr_lifestage_lfs possible values G, Y, S, GY, YS

Code of habitat type see eel_hty_code (F=Freshwater, MO=Marine Open,T=transitional...)

Fao code ofsea region (division level) see tr_fao_area (column division)(https://github.com/ices-eg/WGEEL/w Quality levels have not been set yet

Comment on quality when processing by the wgeel

Comment on data

nt, ND no data

∕iki)

For each data series

Contact person name Contact person email address Method used to collect the data. These are comments to the WGEEL to help to understand how the data were processed. It can be a long text but keep it in the cell.



eel_typ_id	eel_year	eel_value	eel_missvalue	eel_emu_nam	eel_cou_code	eel_lfs_code
11						

eel_hty_code	eel_area_divis	eel_qal_id	eel_qal_comn	eel_comment

emu_namesh:emu_name	emu_cou_code
BE_total	BE
CZ_total	CZ
DE_total	DE
DK_total	DK
EE_total	EE
FI_total	FI
VA_total	VA
PL_total	PL
SE total	SE
_ LT total	LT
_ LV total	LV
 NL_total	NL
AX total	AX
IE outside emu	IE
GB outside emu	GB
EB outside emu	FR
FS outside emu	FS
PT outside emu	PT
IT outside emu	IT IT
MT outside emu	MT
SL outside emu	SI
HR outside emu	HB
BA outside emu	BΔ
ME outside emu	ME
AL outside emu	ΔΙ
GR outside emu	GR
NO total	NO
BE Meus	BE
BE Bhin	BE
BE_Khini BE_Sche	BE
C7 Elbe	C7
BLL total	BU
III total	
TR outside emu	TB
CV outside emu	
SV outside emu	sv
LB outside emu	IB
Il outside emu	1
E_outside_emu	FG
La_outside_enid	
TN outside omu	
D7 outside_eniu	
MA outside amu	MA
MA_Outside_eniu	
VA outside omu	
NO outside omu	
SE outside omu	CF CF
ΔX outside emu	
FL outside emu	FI
i_outside_eniu	

EE_outside_emu	EE
LV_outside_emu	LV
LT_outside_emu	LT
RU_outside_emu	RU
PL_outside_emu	PL
CZ_outside_emu	CZ
DE_outside_emu	DE
DK_outside_emu	DK
ES Nava	ES
ES Spai	ES
NL outside emu	NL
BE outside emu	BE
IT Cala	ІТ
_ IT Camp	ІТ
 IT_Emil	ІТ
_ IT Frio	ІТ
 IT_Lazi	п
IT Ligu	п
IT Lomb	IT
IT Piem	п
IT Vall	П
IT Vene	п
IT lith	 IТ
	111
DZ_total	
	SI
SY_total	SY
	IK
LB_total	LB
LY_total	LY
MI_total	MI
ME_total	ME
MA_total	MA
GR_total	GR
IE_total	IE
FR_total	FR
PT_total	PT
IT_total	IT
ES_total	ES
GB_total	GB
BE_Sein	BE
CZ_Oder	CZ
DE_Eide	DE

DE_Elbe	DE
DE_Ems	DE
DE_Maas	DE
DE_Oder	DE
DE_Rhei	DE
DE_Schl	DE
DE_Warn	DE
DE_Wese	DE
DK_Inla	DK
EE_Narv	EE
EE West	EE
ES anda	ES
ES Astu	ES
ES Bale	ES
ES Basq	ES
ES Cant	ES
ES Cast	ES
FS Cata	ES
ES_Gali	FS
ES_Gun FS_Inne	FS
ES_Murc	FS
ES_Wale	ES
EJ_Vale	EI
FR Adou	FR
EP Arto	ED
EP Prot	
FR_DIEL	
FR_COIS	
FR_Garo	
FR_LOIP	FR
FR_IVIEUS	FR
FR_RNIN	FR
FR_Rhon	FR
FR_Sein	FR
GB_Angl	GB
GB_Dee	GB
GB_Humb	GB
GB_Neag	GB
GB_NorE	GB
GB_Nort	GB
GB_NorW	GB
GB_Scot	GB
GB_Seve	GB
GB_Solw	GB
GB_SouE	GB
GB_SouW	GB
GB_Tham	GB
GB_Wale	GB
GR_CeAe	GR
GR_EaMT	GR
GR_NorW	GR
GR_WePe	GR
---------	----
IE_East	IE
IE_NorW	GB
IE_NorW	IE
IE_Shan	IE
IE_SouE	IE
IE_SouW	IE
IE_West	IE
IT_Abru	IT
IT_Basi	IT
IT_Marc	IT
IT_Moli	IT
IT_Pugl	IT
IT_Sard	IT
IT_Sici	IT
IT_Tosc	IT
IT_Tren	IT
IT_Umbr	IT
LV_Latv	LV
NL_Neth	NL
PL_Danu	PL
PL_Elbe	PL
PL_Oder	PL
PL_Vist	PL
PT_Port	РТ
SE_Both	SE
SE_East	SE
SE_Inla	SE
SE_Sout	SE
SE_West	SE
VA_Lazi	VA

cou_code	cou_country	cou_order	cou_iso3code
NO	Norway	1	NOR
SE	Sweden	2	SWE
AX	Åland	3	ALA
FI	Finland	4	FIN
EE	Estonia	5	EST
LV	Latvia	6	LVA
LT	Lithuania	7	LTU
RU	Russia	8	RUS
PL	Poland	9	POL
CZ	Czech republic	10	CZE
DE	Germany	11	DEU
DK	Denmark	12	DNK
NL	Netherlands	13	NLD
BE	Belgium	14	BEL
LU	Luxembourg	15	LUX
IE	Ireland	16	IRL
GB	Great Britain	17	GBR
FR	France	18	FRA
ES	Spain	19	ESP
PT	Portugal	20	PRT
IT	Italy	21	ITA
MT	Malta	22	MLT
SI	Slovenia	23	SVN
HR	Croatia	24	HRV
BA	Bosnia-Herzeg	25	BIH
ME	Montenegro	26	MNE
AL	Albania	27	ALB
GR	Greece	28	GRC
TR	Turkey	34	TUR
CY	Cyprus	35	СҮР
SY	Syria	36	SYR
LB	Lebanon	37	LBN
IL	Israel	38	ISR
EG	Egypt	39	EGY
LY	Libya	40	LBY
TN	Tunisia	41	TUN
DZ	Algeria	42	DZA
MA	Morocco	43	MAR
VA	Vattican	46	VAT

lfs_code	lfs_name
G	glass eel
S	silver eel
YS	silver eel
GY	glass eel + yellow eel

Y	yellow eel
	ongrown
OG	glass eel
	Quarantined
QG	glass eel

lfs_definition

Young, unpigmented eel, recruiting from the sea into continental waters. WGEEL consider the glass eel term to include all recruits of the 0+ cohort age. In some cases, however, this also includes the early pigmented stages.

Migratory phase following the yellow eel phase. Eel in this phase are characterized by darkened back, silvery belly with a clearly contrasting black lateral line, enlarged eyes and pectoral fins. Silver eel undertake downstream migration towards the sea. This phase mainly occurs in the second half of calendar years, although some are observed throughout winter and following spring.

Yellow eel defined below.

A mixture of glass and yellow eel, some traps have historical set of data where glass eel and yellow eel were not separated, although they were dominated by glass eel.

Life-stage resident in continental waters. Often defined as a sedentary phase, but migration within and between rivers, and to and from coastal waters occurs and therefore includes young pigmented eels (small eels sometimes called elvers or bootlace eels). In particular, some recruitment series either far up in the river (e.g. Meuse) or in the Baltic consist of multiple age classes of young yellow eel, typically from 1 to 10+ years of age- they are referred to as Yellow eel Recruits.

hty_code	hty_description
F	Freshwater
Т	WFD Transitional water - implies reduced salinity
С	WFD Coastal water
MO	Marine water (open sea)

fid	f_level	f_code	f_status	ocean	subocean	f_area	
227	DIVISION	21.0.A	1	Atlantic	2	2	21
230	DIVISION	21.0.B	1	Atlantic	2	2	21
228	DIVISION	21.1.A	1	Atlantic	2	2	21
229	DIVISION	21.1.B	1	Atlantic	2	2	21
231	DIVISION	21.1.C	1	Atlantic	2	2	21
195	DIVISION	21.1.D	1	Atlantic		2	21
196	DIVISION	21.1.E	1	Atlantic		2	21
198	DIVISION	21.1.F	1	Atlantic	2	2	21
197	DIVISION	21.2.G	1	Atlantic	2	2	21
199	DIVISION	21.2.H	1	Atlantic	2	2	21
235	DIVISION	21.2.J	1	Atlantic	2	2	21
234	DIVISION	21.3.K	1	Atlantic	2	2	21
239	DIVISION	21.3.L	1	Atlantic	2	2	21
200	DIVISION	21.3.M	1	Atlantic	2	2	21
218	DIVISION	21.3.N	1	Atlantic	2	2	21
201	DIVISION	21.3.0	1	Atlantic	2	2	21
240	DIVISION	21.3.P	1	Atlantic	2	2	21
238	DIVISION	21.4.R	1	Atlantic	2	2	21
233	DIVISION	21.4.S	1	Atlantic	2	2	21
243	DIVISION	21.4.T	1	Atlantic	2	2	21
219	DIVISION	21.4.V	1	Atlantic	2	2	21
232	DIVISION	21.4.W	1	Atlantic	2	2	21
241	DIVISION	21.4.X	1	Atlantic	2	2	21
242	DIVISION	21.5.Y	1	Atlantic	2	2	21
220	DIVISION	21.5.Z	1	Atlantic	2	2	21
236	DIVISION	21.6.A	1	Atlantic	2	2	21
221	DIVISION	21.6.B	1	Atlantic	2	2	21
237	DIVISION	21.6.C	1	Atlantic	2	2	21
222	DIVISION	21.6.D	1	Atlantic	2	2	21
223	DIVISION	21.6.E	1	Atlantic	2	2	21
224	DIVISION	21.6.F	1	Atlantic	2	2	21
225	DIVISION	21.6.G	1	Atlantic	2	2	21
226	DIVISION	21.6.H	1	Atlantic	2	2	21
267	DIVISION	27.1.a	1	Atlantic	2	2	27
275	DIVISION	27.1.b	1	Atlantic	2	2	27
171	DIVISION	27.10.a	1	Atlantic	2	2	27
215	DIVISION	27.10.b	1	Atlantic	2	2	27
262	DIVISION	27.12.a	1	Atlantic	2	2	27
116	DIVISION	27.12.b	1	Atlantic	2	2	27
253	DIVISION	27.12.c	1	Atlantic	2	2	27
268	DIVISION	27.14.a	1	Atlantic	2	2	27
264	DIVISION	27.14.b	1	Atlantic	2	2	27
265	DIVISION	27.2.a	1	Atlantic	2	2	27
266	DIVISION	27.2.b	1	Atlantic	ź	2	27
277	DIVISION	27.3.a	1	Atlantic	2	2	27
258	DIVISION	27.3.b, c	1	Atlantic	2	2	27
257	DIVISION	27.3.d	1	Atlantic	2	2	27
274	DIVISION	27.4.a	1	Atlantic		2	27
259	DIVISION	27.4.b	1	Atlantic	2	2	27

255 DIVISION	27.4.c	1 Atlantic	2	27
263 DIVISION	27.5.a	1 Atlantic	2	27
261 DIVISION	27.5.b	1 Atlantic	2	27
271 DIVISION	27.6.a	1 Atlantic	2	27
260 DIVISION	27.6.b	1 Atlantic	2	27
273 DIVISION	27.7.a	1 Atlantic	2	27
272 DIVISION	27.7.b	1 Atlantic	2	27
256 DIVISION	27.7.c	1 Atlantic	2	27
270 DIVISION	27.7.d	1 Atlantic	2	27
269 DIVISION	27.7.e	1 Atlantic	2	27
251 DIVISION	27.7.f	1 Atlantic	2	27
252 DIVISION	27.7.g	1 Atlantic	2	27
250 DIVISION	27.7.h	1 Atlantic	2	27
249 DIVISION	27.7.i	1 Atlantic	- 2	27
254 DIVISION	27.7.k	1 Atlantic	- 2	27
248 DIVISION	27.8.a	1 Atlantic	- 2	27
214 DIVISION	27.8 h	1 Atlantic	2	27
	27.8.c	1 Atlantic	2	27
	27.8.e	1 Atlantic	2	27
	27.0.d 27.8 e	1 Atlantic	2	27
	27.0.e	1 Atlantic	2	27
	27.9.u	1 Atlantic	2	27
	34.1.1	1 Atlantic	2	27
	3/1 2	1 Atlantic	3	3/
	2/ 1 2	1 Atlantic	2	24
	24.1.5	1 Atlantic	2	24
	54.5.1 24.2.2	1 Atlantic	2	54 24
	34.3.2 24.2.2	1 Atlantic	2	54 24
	54.5.5	1 Atlantic	с С	54 24
	54.5.4 24.2 F	1 Atlantic	с С	54 24
	34.3.5		3	34
	34.3.0		3	34
	34.4.1		3	34
	34.4.2		3	34
	37.1.1		3	37
114 DIVISION	37.1.2		3	37
115 DIVISION	37.1.3	1 Atlantic	3	37
117 DIVISION	37.2.1	1 Atlantic	3	37
118 DIVISION	37.2.2	1 Atlantic	3	3/
119 DIVISION	37.3.1	1 Atlantic	3	37
121 DIVISION	37.3.2	1 Atlantic	3	37
120 DIVISION	37.4.1	1 Atlantic	3	37
112 DIVISION	37.4.2	1 Atlantic	3	37
113 DIVISION	37.4.3	1 Atlantic	3	37
148 DIVISION	41.1.1	1 Atlantic	4	41
150 DIVISION	41.1.2	1 Atlantic	4	41
151 DIVISION	41.1.3	1 Atlantic	4	41
157 DIVISION	41.1.4	1 Atlantic	4	41
156 DIVISION	41.2.1	1 Atlantic	4	41
163 DIVISION	41.2.2	1 Atlantic	4	41
175 DIVISION	41.2.3	1 Atlantic	4	41

169 DIVISION	41.2.4	1 Atlantic	4	41
176 DIVISION	41.3.1	1 Atlantic	4	41
189 DIVISION	41.3.2	1 Atlantic	4	41
170 DIVISION	41.3.3	1 Atlantic	4	41
202 DIVISION	47.1.1	1 Atlantic	4	47
203 DIVISION	47.1.2	1 Atlantic	4	47
208 DIVISION	47.1.3	1 Atlantic	4	47
209 DIVISION	47.1.4	1 Atlantic	4	47
210 DIVISION	47.1.5	1 Atlantic	4	47
211 DIVISION	47.1.6	1 Atlantic	4	47
207 DIVISION	47.2.1	1 Atlantic	4	47
206 DIVISION	47.2.2	1 Atlantic	4	47
193 DIVISION	47.A.0	1 Atlantic	4	47
194 DIVISION	47.A.1	1 Atlantic	4	47
247 DIVISION	47.B.0	1 Atlantic	4	47
245 DIVISION	47.B.1	1 Atlantic	4	47
204 DIVISION	47.C.0	1 Atlantic	4	47
246 DIVISION	47.C.1	1 Atlantic	4	47
205 DIVISION	47.D.0	1 Atlantic	4	47
244 DIVISION	47.D.1	1 Atlantic	4	47
152 DIVISION	57.5.1	1 Indian	5	57
159 DIVISION	57.5.2	1 Indian	5	57
191 DIVISION	58.4.1	1 Indian	10	58
190 DIVISION	58.4.2	1 Indian	10	58
192 DIVISION	58.4.3	1 Indian	10	58
174 DIVISION	58.4.4	1 Indian	10	58
168 DIVISION	58.5.1	1 Indian	10	58
173 DIVISION	58.5.2	1 Indian	10	58
133 DIVISION	71.6.1	1 Pacific	7	71
130 DIVISION	71.6.2	1 Pacific	7	71
143 DIVISION	87.1.1	1 Pacific	8	87
146 DIVISION	87.1.2	1 Pacific	8	87
149 DIVISION	87.1.3	1 Pacific	8	87
147 DIVISION	87.1.4	1 Pacific	8	87
155 DIVISION	87.2.1	1 Pacific	8	87
154 DIVISION	87.2.2	1 Pacific	8	87
160 DIVISION	87.2.3	1 Pacific	8	87
164 DIVISION	87.2.4	1 Pacific	8	87
162 DIVISION	87.2.5	1 Pacific	8	87
153 DIVISION	87.2.6	1 Pacific	8	87
167 DIVISION	87.3.1	1 Pacific	8	87
166 DIVISION	87.3.2	1 Pacific	8	87
165 DIVISION	87.3.3	1 Pacific	8	87

f_subarea	f_division
21	21.0.A
21	21.0.B
21.1	21.1.A
21.1	21.1.B
21.1	21.1.C
21.1	21.1.D
21.1	21.1.E
21.1	21.1.F
21.2	21.2.G
21.2	21.2.H
21.2	21.2.J
21.3	21.3.K
21.3	21.3.L
21.3	21.3.M
21.3	21.3.N
21.3	21.3.0
21.3	21.3.P
21.4	21.4.R
21.4	21.4.S
21.4	21.4.T
21.4	21.4.V
21.4	21.4.W
21.4	21.4.X
21.5	21.5.Y
21.5	21.5.Z
21.6	21.6.A
21.6	21.6.B
21.6	21.6.C
21.6	21.6.D
21.6	21.0.E
21.0	21.0.F
21.0	21.0.G
21.0	21.0.n 27.1 a
27.1	27.1.a 27.1 h
27.1	27.1.0 27.10 a
27.1	27.10.a 27.10.h
27.1	27.10.0 27.12 a
27.12	27.12.u 27.12 h
27.12	27.12.c
27.14	27.14.a
27.14	27.14.b
27.2	27.2.a
27.2	27.2.b
27.3	27.3.a
27.3	27.3.b, c
27.3	27.3.d
27.4	27.4.a
27.4	27.4.b

27.4	27.4.c
27.5	27.5.a
27.5	27.5.b
27.6	27.6.a
27.6	27.6.b
27.7	27.7.a
27.7	27.7.b
27.7	27.7.c
27.7	27.7.d
27.7	27.7.e
27.7	27.7.f
27.7	27.7.g
27.7	27.7.h
27.7	277i
27.7	27.7 k
27.8	27.8 a
27.8	27.8 h
27.0	27.0.0 27.8 c
27.0	27.0.C
27.0	27.0.U
27.0	27.0.0
27.9	27.5.a
27.9	27.9.0
54.1	54.1.1 24.1.2
34.1	34.1.2
34.1	34.1.3
34.3	34.3.1
34.3	34.3.2
34.3	34.3.3
34.3	34.3.4
34.3	34.3.5
34.3	34.3.6
34.4	34.4.1
34.4	34.4.2
37.1	37.1.1
37.1	37.1.2
37.1	37.1.3
37.2	37.2.1
37.2	37.2.2
37.3	37.3.1
37.3	37.3.2
37.4	37.4.1
37.4	37.4.2
37.4	37.4.3
41.1	41.1.1
41.1	41.1.2
41.1	41.1.3
41.1	41.1.4
41.2	41.2.1
41.2	41.2.2
41.2	41.2.3

	41.2	41.2.4
	41.3	41.3.1
	41.3	41.3.2
	41.3	41.3.3
	47.1	47.1.1
	47.1	47.1.2
	47.1	47.1.3
	47.1	47.1.4
	47.1	47.1.5
	47.1	47.1.6
	47.2	47.2.1
	47.2	47.2.2
47.A		47.A.0
47.A		47.A.1
47.B		47.B.0
47.B		47.B.1
47.C		47.C.0
47.C		47.C.1
47.D		47.D.0
47.D		47.D.1
	57.5	57.5.1
	57.5	57.5.2
	58.4	58.4.1
	58.4	58.4.2
	58.4	58.4.3
	58.4	58.4.4
	58.5	58.5.1
	58.5	58.5.2
_71.6		71.6.1
_71.6		71.6.2
	87.1	87.1.1
	87.1	87.1.2
	87.1	87.1.3
	87.1	87.1.4
	87.2	87.2.1
	87.2	87.2.2
	87.2	87.2.3
	87.2	87.2.4
	87.2	87.2.5
	87.2	87.2.6
	87.3	87.3.1
	87.3	87.3.2
	87.3	87.3.3

qal_id qal_level qal_text

No information required for 2017.

Code	Short definition	: Longer definition
		data or activity exist but numbers are not reported to
		authorities (for example for commercial confidentiality
NR	not reported	reasons).
		where there are insufficient data to estimate a derived
		parameter (for example where there are insufficient data to
ND	no data	estimate the stock indicators (biomass and/or mortality)).
		activity / habitat exists but data are not collected by authorities
		(for example where a fishery exists but the catch data are not
NC	not collected	collected at the relevant level or at all).
		where the question asked does not apply to the individual case
		(for example where catch data are absent as there is no fishery
NP	not pertinent	or where a habitat type does not exist in an EMU).

Name: A.N.Other Email address: <u>an.other@email.suf</u>

Comments: Insert your comments here, describing any ways you think the data call process and content

could be improved and made easier for you in the future

Annex 4: Summary of the discussion regarding using InterCatch for eel data

WKEELDATA evaluated whether the landings commercial fisheries could be included in the InterCatch information system. The InterCatch information system is designed as a simplified uniform data handler for fisheries commercial catch data submitted to ICES. InterCatch includes facilities for processing national data, interpolation of missing age or length data and quality checks. This results in input files for fisheries assessment and assessment models, as well as standard tables for working group reports of many species.

However, the particularities of eel biology, fishery and related regulations makes it impossible to use InterCatch as an input for population assessment at its present stage.

InterCatch is focused in marine fishery, while a high percentage of eel fishery happens in inner waters. Therefore, the areas defined in InterCatch are not applicable. The proper areas would be those defined in Eel Management Plans, the Eel Management Units; that are in fact the areas considered in the EUMAP.

Also, the eel assessment nowadays relies on two indices: recruitment, used for scientific advice of ICES to the EU and escapement, which has been chosen by the European Commission as a target for the EMPs. Therefore, the eel database should include data that would allow to estimate those two indices.

However, InterCatch has many desirable characteristics that should be considered when choosing an appropriate eel data handler:

- Organisational memory: Documentation of the steps and changes is automatically done.
- It assures the **transparency** of the process since all the information necessary to trace back all steps of the data gathering and treatment is available.
- Allows the **reproduction of the assessment** because the transparency in the analysis assures that the assessment is reproducible to others.
- **Data accessibility** increases when they are stored in a central database instead of on many different locations in different formats/ways.
- Data are **checked** by the stock coordinator before being used in the assessment.
- **Aggregation and export** can easily be done at any level directly producing standard tables for working group reports.

Because of its biological particularities (see above), it was concluded that WGEEL should have its own database within the ICES DataCentre.