

Joint EIFAAC/ICES/GFCM Working Group on Eels (WGEEL), 2014

Plan of Report to address the specific and generic ToR

Chapters split to reflect the 12 task groups

(repetition from previous WG, SG and WK reports is expected, because the 2014 report will provide a reference source for new members)

(this year is an opportunity to critically examine assessment methods and their data, and to make recommendations for improvements and new developments)

(Chapter numbers ignore the preambles at the start.)

Chapter 1: ToR a) Assess the latest trends in recruitment, stock and fisheries, including effort, and other anthropogenic factors indicative of the status of the stock, and report on the state of the international stock and its mortality;

The purpose of this chapter is to provide the information for the international stock assessment in support of the ICES Advice. Report on the scale of the whole stock, or the part(s) that has data.

-----Task 1 below-----

-----staff: Cedric, Martin

1. Describe recent trends in each of these metrics
 - a. Recruitment – glass, yellow:
 - b. Stock – yellow abundance or biomass, silver escapement biomass
 - c. Fisheries – glass, yellow, silver: catch, utilised effort vs capacity, CPUE
 - d. Other anthropogenic factors – refer to recent WG and WK reports, and Country Reports (CR), for the list and data.
 - e. Mis-reporting of data, and illegal fisheries.
 - f. Environmental drivers (refer to Country Reports)
2. Consider options for baseline reference years or periods, including those used previously and alternatives, and make recommendations for future assessments (see comments x from RGEEL 2013)

-----Task 2 below-----

-----staff:

3. Consider methods to detect break point(s) in trends, and apply to the trends reported here.
4. Consider methods to determine stock recovery, to determine whether or not trends are moving towards recovery with sufficient statistical confidence, to determine milestones on progress to stock recovery (i.e. “where do we want to go”, “are we going in the right direction”, are we there yet?”).
5. Propose indicators of stock size (or of changes in stock size) that could be used to decide when an update assessment is required and suggest threshold % (or absolute) changes that the EG thinks should trigger an update assessment on a stock by stock basis.

-----Task 3 below, Chair will ‘manage’ this with task leaders-----

6. Draft the formal and popular Advice on eel, taking into account new guidance on giving catch advice (ACOM, December 2013)

Chapter 2: ToR b) Review the life-history traits and mortality factors by ecoregion

The new ICES Advice template delivers advice to ecoregion scale. The purpose of this chapter is to provide the information ICES would require to make a stock assessment based on one of the “Data limited stocks” approaches. The eel stock may not align well with the DLS approaches, in which case this should be described and discussed.

-----Task 4 below-----

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1. Refer to WKLIFE I, II, III and IV reports, and other assessment reports, to identify the life history traits and mortality factors relevant to other ICES stock assessments that could be applied to the eel stock (explain selection and rejection);
2. Noting that there are variations at all scales from between individual eels to between eel management units within an ecoregion, consider which of these variations matter to an ecoregion scale stock assessment. Recommend appropriate reporting of central tendency and estimates of uncertainty.
3. Summarise life history traits and mortality factors (rates) by ICES ecoregion in a table (see Table 2.1 below as an example), with brief text describing the data sources.
4. Consider whether alternative eel regions would be better for ICES advice, and explain.
5. Consider whether or not the eel stock aligns well with any of the DLS approaches, and if necessary, make recommendations to the WKLIFE for alternative traits that could be used to assess eel.

Table 2.1. Example table: Representative life history traits and mortality factors for eel in each of the relevant ICES Ecoregions

Trait/mortality: Ecoregion (code)	Barents Sea (B)	Norwegian Sea (D)	Celtic Sea (E)	North Sea (F)	South European Atlantic Shelf (G)	Western Mediterranean (H)	Adriatic-Ionian (I)	Aegean-Levantine (J)	Baltic Sea (L)

Footnote to table: provide units for each of the traits and mortality factors; provide indications of how representative these results are of the ecoregion

Chapter 3: ToR c) Overview of available data and gaps for stock assessment

The purpose of this chapter is to describe in one place: which assessment data are required and which data are missing. Chapter will conclude with a consideration of the effects of missing data on the quality of the assessment, in terms of representing the whole stock, and recommendations for approaches and priorities to address these gaps.

-----Task 5 below-----

-----staff:

1. List data requirements and gaps for the following international stock assessment approaches (referring to chapter 1):
 - a. Recruitment time series
 - b. Stock indicators of silver eel biomass and anthropogenic mortality rates
 - c. Stock Recruitment relationship
2. Prioritise data gaps in terms of impact on the quality of the international stock assessment, and make recommendations for future work to fill these gaps

Chapter 4: ToR d) Identification of suitable tools (models, reference points etc) in both data rich and data poor situations

The purpose of this chapter is to provide a source of reference for those wishing to implement eel stock assessments. Note that the chapter will probably have to define data rich and data poor, but can refer to POSE report if that helps.

-----Task 6 below-----

-----staff:

1. With reference to previous WG, SG and WK reports, Country Reports and other publications (e.g. EMPs, EMP Progress Reports, POSE and SLIME reports), summarise the application of approaches to assess eel at various geographic scales and various data rich and data poor situations.

Chapter 5 : ToR e) Further develop the stock–recruitment relationship and associated reference points, using the latest available data

The purpose of this chapter is to critically assess the development of the stock-recruitment relationship and associated reference points in terms of available data. The RGEEL 2013 asked whether the ‘derived’ stock and recruitment time series used by WGEEL would ever be of sufficient quality (e.g. certainty, representativeness of the stock) to support a robust S-R relationship. The ADGEEL 2013 said that ICES would not use this relationship unless the data issues could be addressed.

-----Task 7 below-----

-----staff:

1. Consider and address the comments of RGEEL 2013 (and 2012?) in relation to the eel stock recruitment relationship and associated reference points described in the WGEEL 2013 report.

2. Consider standards for the data and S/R relationship under which the relationship and associated reference points would be used in the ICES Advice. Consider whether these standards could be met with historic data?
3. Describe the stock and recruitment data that would be required to construct a suitable S/R assessment relationship, and make suggestions for future data collection.

Chapter 6: ToR f) Explore the standardization of methods for data collection, analysis and assessment, and work with ICES DataCentre to develop a database appropriate to eel along ICES standards (and wider geography);

-----Task 8 below-----

-----staff:

1. Liaise with the ICES DataCentre to develop a database appropriate to eel stock assessment – (i) for data as used now, and (ii) for data that might be used by a standard approach (see below). Refer to the data requirements described in chapters 1-5 of this report, and to eel databases developed in SGIPEE and POSE.
2. Describe a workplan including tasks, milestones and resources to develop this database.

-----Task 9 below-----

-----staff:

The EU Member States have developed their own approaches to estimate stock indicators. It is uncertain how comparable these approaches are, and therefore the quality (accuracy) of the 'whole' stock assessment.

3. Consider options for an approach that could be applied across all eel-producing habitats, taking into account (potentially) available data.
4. Plan a work program to develop such a standard approach, including milestones, timelines for delivery, and resource requirements.

Chapter 7: ToR g) Provide guidance on management measures that can be applied to both EU and non-EU waters;

The purpose of this chapter is to summarise management measures that can be applied for the purpose of reducing the impact of anthropogenic mortality factors, in order to support the recovery of the international stock, and to describe how to quantify the success of these measures. The information in this chapter will be important to considerations of future post-evaluations of EU eel management plans, and of other management plans outside of the EU.

-----Task 10 below-----

-----staff: Derek,

1. Describe the range of management measures available to assess and control the impact of anthropogenic mortality factors
2. Describe approaches to quantify the effects of management measures on silver eel escapement, or other assessment metrics.

Chapter 8: ToR h) Address the generic EG ToR from ACOM

Note that some of these generic ToR are addressed within chapters 1-7, in which case chapter 8 will only direct the reader to the relevant part of other chapters.

-----Task 11 below-----

-----staff:

The deliverables are listed with black spot bullets.

8.1 For the ecoregions:

- a) Consider ecosystem overviews where available, and propose and possibly implement incorporation of ecosystem drivers in the basis for advice
 - Briefly discuss.
- b) For the ecoregions and fisheries (suggest separate for glass, yellow, silver eel fisheries) considered by the working group, produce a brief report summarising for the stocks and fisheries where the item is relevant:
 - i) Mixed fisheries overview and considerations;
 - ii) Species interaction effects and ecosystem drivers;
 - iii) Ecosystem effects of fisheries;
 - iv) Effects of regulatory changes on the assessment or projections;
 - Briefly report, or explain why not relevant.

8.2

- c) If no stock annex is available this should be prepared prior to the meeting, based on the previous year's assessment and forecast method used for the advice, including analytical and data-limited methods
 - Review Stock Annex in other assessment reports (e.g. WGNAS) and make a plan for delivering a stock annex for eels (including tasks, milestones and resources)
- d) Audit the assessments and forecasts carried out for each stock under consideration by the Working Group and write a short report.
 - Review audits in other assessment reports (e.g. WGNAS), make a plan for auditing eel assessments, and conduct the audit if time allows within the meeting.
- e) Propose specific actions to be taken to improve the quality and transmission of the data (including improvements in data collection).
 - Refer to Chapter 1.4 for improvements to data quality, and 6.1 for improvements to data transmission.
- f) Propose indicators of stock size (or of changes in stock size) that could be used to decide when an update assessment is required and suggest threshold % (or absolute) changes that the EG thinks should trigger an update assessment on a stock by stock basis.
 - Refer to Chapter 1.7.
- g) Prepare planning for benchmarks next year, and put forward proposals for benchmarks of integrated ecosystem, multi or single species for 2016
 - Review benchmark reports of other assessments, make a plan for an eel benchmark, including tasks, milestones and resource requirements.
- h) Check the existing static parts of the popular advice and update as required.
 - Refer to Chapter 1.3.
- i) In the autumn, where appropriate, check for the need to reopen the advice based on the summer survey information and the guidelines in AGCREFA (2008 report). The relevant groups will report on the

AGCREFA 2008 procedure on reopening of the advice before 13 October and will report on reopened advice before 29 October.

- Not relevant to eel (unless anyone thinks otherwise?).
- j) Take into account new guidance on giving catch advice (ACOM, December 2013).
 - Refer to Chapter 1.3.
- k) Update, quality check and report relevant data for the stock:
 - a. Load fisheries data on effort and catches (landings, discards, bycatch, including estimates of misreporting when appropriate) in the INTERCATCH database by fisheries/fleets, either directly or, when relevant, through the regional database.
 - b. Abundance survey results;
 - c. Environmental drivers.
 - Refer to Chapter 1.1.
- l) 8.10 Produce an overview of the sampling activities on a national basis based on the INTERCATCH database or, where relevant, the regional database.
 - Refer to Chapter 6.1 for database and recommendations for future data management.

8.3

- m) Produce a first draft of the advice on the fish stocks and fisheries under considerations according to ACOM guidelines and implementing the generic introduction to the ICES advice (Section 1.2). If no change in the advice is needed, one page 'same advice as last year' should be drafted.
 - Refer to Chapter 1.3.
- n) For the eel stock:
 - i. Update the assessment using the method as described in the stock annex.
 - ii. Produce a brief report of the work carried out regarding the stock, summarising for the stocks and fisheries where the item is relevant:
 - a. Input data;
 - b. Where misreporting of catches is significant, provide qualitative and where possible quantitative information and describe the methods used to obtain the information;
 - c. Stock status and catch options for next year;
 - d. Historical performance of the assessment and brief description of quality issues with the assessment;
 - e. In cooperation with the Secretariat, update the description of major regulatory changes (technical measures, TACs, effort control and management plans) and comment on the potential effects of such changes including the effects of newly agreed management and recovery plans. Describe the fleets that are involved in the fishery.
 - Refer to Chapter 1.
- o) Review the outcomes of WKMSRREF2 for the specific stocks of the EG. Calculate reference points for stocks where the information exists but the calculations have not been done yet and resolve inconsistencies between MSY and precautionary reference points if possible.
 - Refer to Chapter 5.

Annex 1 References Cited

Annex 2 Participants List

-----Task 12 below-----
-----staff:

Annex 3 WGEEL response to Technical Minutes of the Review Group (ICES, 2013)



Annex 4 Technical Minutes of the Review Group 2014

Annex 5 Country Reports