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**REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN
PARLIAMENT**

**On the outcome of the implementation of the Eel Management Plans, including an
evaluation of the measures concerning restocking and of the evolution of market prices
for eels less than 12 cm in length**

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Background

This report is presented to the European Parliament and the Council in line with Article 9(2) of Council Regulation (EC) 1100/2007 of 18 September 2007 (the Eel Regulation).¹

The Eel Regulation establishes measures for the recovery of the European Eel stock, the abundance of which was at a historical low level and in constant decline at an alarming rate with a recruitment situated between 1 and 5% of that observed in the 1970s (a period when the state of the stock was considered healthy) according to recurrent ICES advice in the 2000s. European eel is also included in Appendix II of the Convention on International Trade in Endangered Species (CITES) since 2009, which concerns species that are not necessarily threatened with extinction, but for which trade must be controlled in order to avoid utilization that is incompatible with their survival. This is reflected through listing in Annex B to Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora. In December 2010, the Scientific Review Group (SRG) established under this Regulation came to the conclusion that "it was not possible for the SRG to consider that the capture or collection of European eel specimens in the wild or their export will not have a harmful effect on the conservation status of the species".² On that basis, the EU CITES Management Authorities have not been in a position to allow export of eels from the EU since December 2010.

The Eel Regulation obliges Member States with river basins in their national territory that constitute habitats for the eels, to establish and implement Eel Management Plans (EMPs). These EMPs should contain management measures to ensure the escapement to the sea of at least 40% of adult eels relative to the escapement levels that would have existed in the absence of human influences. In particular, an EMP may contain measures, such as reducing commercial fishing activity, restricting recreational fishing, restocking measures, structural measures to make river passable and improve river habitats, transportation of silver eel from inland waters, combatting predators, measures related to hydro-electric power turbines,

¹ OJ, L 248, 22/09/2007, p. 17. The STECF opinion referred to in article 9(2) of the Eel Regulation may be found at: http://stecf.jrc.ec.europa.eu/documents/43805/594118/2013-07_STECF+PLEN-13-02_JRC83565.pdf (p. 113 f.)

² Short summary of conclusions of the 54th meeting of the Scientific Review Group on trade in wild fauna and flora, 3 December 2010, https://circabc.europa.eu/sd/a/49ab3fc9-646b-4b35-ac42-f0333479ce24/54_summary_srg.pdf.

aquaculture, as well as any other measure necessary for the achievement of the above mentioned 40% escapement target. In addition, Member States that permit the fishing of eels less than 12 cm in length (glass eels) have an obligation to reserve 60 % of their glass eel catches for restocking purposes.³

State of the Stock of European Eel

The Commission obtains regular scientific advice from ICES on the state of the European eel stock. ICES has provided advice on eel since 1999, revealing long-term declines in the abundance of all stages (glass, yellow and silver) of the European eel stock and in recruitment.

According to the latest ICES advice released in November 2013, the status of the eel stock remains critical and urgent action is needed. The advice points out that there is an increase in the annual recruitment of glass eels from less than 1% to 1,5% in the North Sea and from 5% to 10% elsewhere over the last two years. However, this increase should be put in historical perspective and does not affect escapement of adult eel in the short term because of the duration of the eel life cycle. Therefore, there is no change in the perception of the status of stock as being critical at this stage.

The available scientific assessment was carried out on the basis of incomplete reporting and a non-standardized data collection and methodology. As a consequence, it does not fully assess the state of the stock, which spreads beyond EU waters.

Scientific advice is also provided by the International Union for the Conservation of Nature which has assessed in 2014 the species as critically endangered on the basis of a sharp reduction in population size. IUCN concludes that there have been substantial declines (90-95%) in recruitment of the European Eel across wide areas of its geographic range during the period of the last 45 years due to a range of threats facing eels at multiple life history stages.

State of Implementation of Regulation 1100/2007

The implementation of the Eel Regulation has suffered significant delays. EMPs were submitted late by Member States (ranging from several months to almost two years after the deadline), technical evaluations took unexpectedly long, reports had to be re-submitted for approval by the Commission, and the implementation of the majority of plans and the application of restocking measures were correspondingly delayed.

³ In accordance with Article 2(1) of the Eel Regulation, Member States shall identify and define the individual river basins lying within their national territory that constitute natural habitats for the European eel (eel river basins), whereas according to Article 7(1) of the Eel Regulation, by 31 July 2013, 60% of eels less than 12 cm in length (glass eels) caught annually shall be reserved for restocking.

Nineteen Member States have submitted EMPs. These plans contain various measures to reduce mortality factors including fishing restrictions and non-fishing related actions, in particular as regards the modification or removal of migration obstacles, restocking, reduction of pollution, combatting of parasites. Before approval by the Commission, all EMPs submitted were examined by ICES.

Six Member States were exempted from the obligation to establish EMPs as their territory was deemed not to constitute significant eel habitat (Article 3).⁴ Two Member States⁵ have not submitted plans, and were thus obliged by default to implement a 50% reduction in eel fisheries (Article 4(2) of the Eel Regulation).

Under Article 9(1) of the Regulation, Member States have to report every three years on progress in the implementation of their EMPs. These reports must provide, in particular, the following information:

- (a) for each Member State, the proportion of the silver eel biomass that escapes towards the sea to spawn, relative to the target level of escapement set out in Article 2(4);
- (b) the level of fishing effort exerted on eel each year, and the reduction realized in accordance with Articles 4(2) and 5(4);
- (c) the level of mortality factors outside the fishery, and the reduction realized in accordance with Article 2(10);
- (d) the amount of glass eels caught and the proportions of this utilized for various purposes.

Most Member States met the deadline for submission of the first progress report (30 June 2012).⁶ Disparities in the dates of adoption of the different Member States' EMPs (between July 2009 and 2011), are also reflected in the progress reports. Some national authorities and scientists have pointed out the lack of time to collect data and/or assess the impact of the implementation of the EMPs.

Statistical and Scientific Evaluation of the Outcome of the EMPs

All Member States' progress reports were submitted to statistical and scientific evaluation. Based on an expert evaluation, scientific advice in response to Commission's *ad hoc* request to technically evaluate the implementation of the EMPs was received in June 2013.⁷ The advice confirmed that in most Eel Management Units (EMUs), i.e. the 81 management units established by Member States for the implementation of their EMPs, progress was made in

⁴ Austria, Slovakia, Hungary, Romania, Cyprus, Malta.

⁵ Bulgaria, Slovenia.

⁶ To this date, only FI has not submitted a progress report.

⁷ ICES Advice in response to EU request to ICES to technically evaluate the Eel Management Plan progress, *in* report of the ICES Advisory Committee, 2013. ICES Advice 2013, Book 9, Section 9.3.3.3. 17 pp.

implementing management measures related to fisheries, but that other management measures, such as improving habitats, combatting parasites or predator control, have often been postponed or only partially implemented.

Generally speaking, in the current situation, it remains difficult to assess the outcome of EMPs against the 40% escapement target set by the Eel Regulation.

Scientific advice underlines that the effectiveness of individual management measures cannot always be demonstrated: necessary data are missing or the measures concerned are not expected to produce their effects immediately or in the short term. For instance, there is high probability that restrictions on fisheries for silver eel have contributed to increases in silver eel escapement. However, management measures targeting eels prior to the silver eel stage (for instance restocking) are not expected to have yet contributed to increased silver eel escapement for biological reasons (generational lag time, ranging from approximately 5 years in Mediterranean lagoons to 25 - 30 years in northern Europe). Non-fisheries measures related to hydropower, pumping stations and migration obstacles are also difficult to evaluate at this point in time, mainly due to the site-specific nature of potential impacts and lack of post-evaluation data. The advice does not conclude that these management measures are ineffective or that will not be effective in the longer term.

For the reasons explained above, it is not yet possible to determine on an individual basis the contribution of EMUs to the recovery of the whole stock. According to the Member States' progress reports, out of 81 EMUs, 17 EMUs are achieving their biomass targets, in 42 EMUs this is not the case, and there is no report for 22 EMUs. 24 EMUs reported on achieving their anthropogenic mortality targets, 19 reported not to have achieved these targets, and 38 did not report all the stock indicators necessary to make this evaluation. Scientific evaluation further highlighted the value of assessments aiming to establish which additional measures (other than fisheries restrictions) are most likely to contribute to achieving management targets.⁸

Restocking

The Eel Regulation obliges Member States who permit glass eels fishing to reserve at least 60% of the catches for conservation-oriented restocking within the EU. However, it is not certain that 60% of the total catches have been effectively restocked, since it seems that the demand is not sufficient. Restocking is a measure featuring in virtually all EMPs. According to the scientific review, only a few EMUs have reached their restocking targets, most EMUs have partially reached their targets and a few EMUs failed to implement the action.

⁸ STECF, 43th Plenary Meeting Report, 8-12 July 2013, Copenhagen, Report EUR 26094

Scientific advice on the state of the stock of European eel for 2012⁹ expressed concerns about current eel restocking practices and pointed out that it is not clear if restocking actually contributes to ensure increased silver eel escapement, or to sustain fishing for eel in certain EMUs. The scientific review of the implementation of the EMPs¹⁰ concludes that restocking under the EMPs is not expected to have contributed to increased silver eel escapement: its efficacy remains uncertain while evidence of net benefit is lacking because of the generational lag time.

Scientists are also questioning the contribution of restocking to the spawning stock and it has been recommended "that all stocked eel should be marked and thereby separable from wild eel in subsequent sampling".¹¹ While the effects of restocking cannot be demonstrated immediately because of the generational lag time, recently research has been undertaken in Sweden to trace stocked eels in order to verify whether they migrate in the same way as wild-recruited eels.¹² The first results seem to indicate that stocked eels that behave in the same way as naturally recruited eels.

An overview of the implementation of restocking by Member States can be found in Annex II of this report.

Evolution of Market Prices for Glass Eels and Illegal Trade

According to Article 7(6) of the Eel regulation, when market prices of glass eel used for restocking suffer a significant decline compared to the price of glass eels used for other purposes, based on price information to be submitted by the Member States and upon request of the Member State concerned, the Commission shall take appropriate measures to address the situation. These measures may include a reduction in the percentage of glass eels to be reserved for restocking as set out in Article 7(2) of the regulation. No such measures have been adopted so far.

⁹ ICES advice on European eel, ICES advice 2012, Book 9, Section 9.4.7: "Given the current record-low abundance of glass eels, ICES reiterates its concern that glass eel stocking programmes are unlikely to contribute to the recovery of the European eel stock in a substantial manner. The overall burden of proof should be that stocking will generate net benefits, in terms of contributions to silver eel escapement and spawning potential. Prior to stocking, or for continuing existing stocking, a risk assessment should be conducted, taking into account fishing, holding, transport, post-stocking mortalities, and other factors such as disease and parasite transfers. To facilitate stock recovery all catches of glass eel should be used for stocking. Stocking should take place only where survival to the silver eel stage is expected to be high and escapement conditions are good. This means that stocking should not be used to continue fishing and stocking should only take place where all anthropogenic mortalities are low".

¹⁰ ICES Advice in response to EU request to ICES to technically evaluate the Eel Management Plan progress, *in* report of the ICES Advisory Committee, 2013. ICES Advice 2013, Book 9, Section 9.3.3.3. 17 pp.

¹¹ Report of the EIFAAC/ICES Working Group on Eel (2011).

¹² Wickström & Sjöberg, Traceability of stocked eels – the Swedish approach, *Ecology of Freshwater Fish 2013*, p. 1.

The Eel Regulation (Article 7(7)) sets out an obligation for the Commission to report to the European Parliament and to the Council before 1 July 2011 to assess the effectiveness of restocking measures and the evolution of market prices for glass eels. The Commission has reminded Member States of their obligation to report glass eel prices throughout 2011 and 2012. By July 2012, one year after the first annual deadline for reporting on glass eel prices, twelve Member States had submitted glass eel price reports, only nine of which were complete. Consequently, the Commission was not in a position to meet the reporting obligations under Article 7(7) by the indicated deadline.

A tentative evaluation of the evolution of market prices for glass eels as reported by the Member States is incorporated into this report. Annex I summarizes the information provided by Member States on the prices per kilogram of glass eel paid by restockers in various Member States.

With the listing of European Eel in Appendix II of CITES (and its transposition into EU Regulation 338/97), since December 2010 no trade of eel has been allowed into or out of the European Union.¹³ Glass eels caught in EU waters cannot be traded outside the EU. Glass eel that is not used for restocking can be directed to human consumption (mainly in Spain and France) or to aquaculture (mainly in the Netherlands and Denmark, but also Greece).

In the absence of international trade and of accurate and sufficient information on prices in the Member States, price comparison between traded glass eel and glass eels used for restocking has become impossible.

Recommendations to improve the effectiveness of the Eel Regulation

Despite the implementation of EMPs, the state of the stock of European eel remains critical and a precautionary approach should be adopted until there is certain evidence of a sustained increase in recruitment and the adult stock. Scientists constantly advise that all humanly induced mortality (fisheries and non-fishing anthropogenic mortality) should be reduced to as close to zero as possible and that urgent action is needed. In line with this scientific advice, additional measures may need to be considered to reduce current levels of humanly induced mortality.

The implementation of EMPs has resulted in restrictions on fisheries, which can bring about an increase in glass eel recruitment within a couple of years. It is therefore necessary to assess the impact of such restrictions in the short-term.

¹³ COUNCIL REGULATION (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein (OJ L 61, 3.3.1997, p. 1).

Non-fishing anthropogenic mortality factors include hydropower and pumping stations, habitat loss or degradation, pollution, diseases and parasites. More attention should be given to management measures related to these non-fishing anthropogenic mortality factors, the majority of which has only partially been implemented by Member States. While the objective of the National Management Plans is to ensure that the 40% escapement target set out in Article 2(4) of the Regulation is met, there is not yet the complete data available from inside or outside the EU to assess the achievement of this objective at the scale of the EU or the whole eel stock.

Regarding restocking, the impact of which on the European eel stock can only be assessed in the long term, scientific advice shows that there are concerns about current eel restocking practices and points out that it cannot yet be proven if restocking actually contributes to ensure increased silver eel escapement. It is therefore necessary to put in place means to evaluate its effects and contribution to silver eel escapement, as well as consider if the provisions on restocking in the Eel Regulation are still adequate in light of problems with their implementation. The services of the Commission are closely following scientific work on this topic and will address the issue in accordance with most recent findings.

Finally, from an administrative point of view, the Eel regulation puts upon Member States significant reporting obligations, since a complete reporting of indicators is necessary to fully assess the state of the stock and the effectiveness of the implementation of EMPs. However, reporting has often been incomplete, whereas there are inconsistencies in reporting and calculation of reported stock indicators among Member States. Standardization of data table formats and calculation methods would facilitate reporting, while enabling a better evaluation of the effectiveness of individual management measures at EMU level.

The Commission intends to request an external scientific review of the methodologies used by Member States, and, where relevant, an update or a new estimation of stock indicators regarding eel. The objective is to obtain solid estimates of stock parameters by EMUs to reflect the stock and exploitation status in Europe, assess the impact of the Eel Regulation and consider if additional measures are needed. On the basis of this advice and where appropriate, the Commission will consider ways and means to assess the effectiveness of the Eel regulation, including a possible review.

Sources

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