

European eel: stock assessment and management

“Mind the Gap”

Dr Alan Walker

15th May 2018

**CMS Range States Meeting II
Malmo, Sweden**



Centre for Environment
Fisheries & Aquaculture
Science

World Class Science for the Marine and
Freshwater Environment



Cefas

Introduction

- How can CMS support eel assessment, management, recovery & sustainability?
- “Filling the Gaps”
- WGEEL
 - What does it do?
 - What gaps can be filled?
 - Monitoring
 - Reporting
 - Taking measures





General Fisheries Commission
for the Mediterranean
Commission générale des pêches
pour la Méditerranée

Joint EIFAAC, ICES & GFCM WGEEL

An international scientific expert group to:

- provide up-to-date (annual) best available scientific advice of the status of the eel stock under ICES/EU Memorandum of Understanding;
- provide technical and scientific advice in support of the development and implementation of legislation for the protection of the eel stock;
- provide regular updates on the latest advances in eel stock assessment and eel science;

Annual meeting to address ToR from ICES, EIFAAC & GFCM, plus workshops.

WGEEL Membership

National and key agency scientists covering the North Atlantic, North Sea, Baltic, Mediterranean and North African areas and links with scientists from North America, Asia and Australasia.



EU request to ICES

Administrative Agreement (annual): FOR EUROPEAN EEL THROUGHOUT ITS NATURAL RANGE

In advisory deliverables on fish stocks, ICES will provide the EC with

1. A formal advice detailing
 - a. the status of the stock and its exploitation according to results of the assessment process;
 - b. catch options calculated based on the result of the assessment, in-year assumptions on catches and in line with management plans to be selected from the following ordered options:
2. A set of relevant information supporting the advice. In particular, ICES will provide information
 - a. on the status of each stock both in terms of biomass as regards the reproductive capacity and in terms of fishing mortality as regards the level of harvest as identified under the precautionary approach in order to maintain a historical time series;



The ICES Advice Sheet

ICES Advice on fishing opportunities, catch, and effort
Ecoregions in the Northeast Atlantic
ele.2737.nea



Published 7 November 2017
DOI: 10.17895/ices.pub.3440

European eel (*Anguilla anguilla*) throughout its natural range

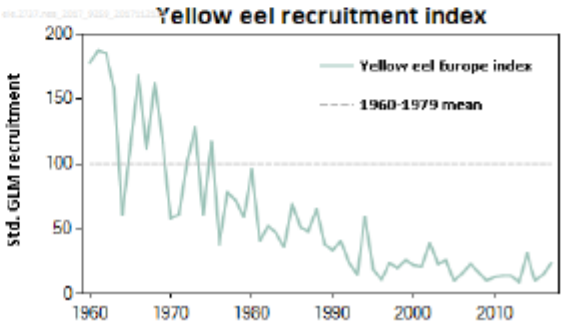
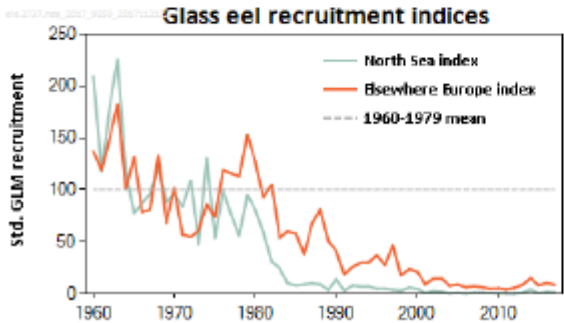
ICES stock advice

ICES advises that when the precautionary approach is applied for European eel, all anthropogenic impacts (e.g. recreational and commercial fishing on all stages, hydropower, pumping stations, and pollution) that decrease production and escapement of silver eels should be reduced to – or kept as close to – zero as possible.

Stock development over time

The status of eel remains critical.

The annual recruitment of glass eel to European waters in 2017 remained low, at 1.6% of the 1960–1979 level in the “North Sea” series and 8.7% in the “Elsewhere Europe” series. The annual recruitment of young yellow eel to European waters was 24% of the 1960–1979 level. These recruitment indices remain well below the 1960–1979 reference levels, and there is no change in the perception of the status of the stock.



Catch options

Total landings and effort data are incomplete and therefore ICES does not have the information needed to provide a reliable estimate of total catches of eel. Furthermore, the understanding of the stock dynamic relationship is not sufficient to determine/estimate the impact any catch (at the glass, yellow, or silver eel stage) would have on the reproductive capacity of the stock.

Basis of the advice

Table 2 European eel. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	A management framework for eel within the EU was established in 2007 through an EU regulation (EC Regulation No. 1100/2007 ; EC, 2007), but there is no internationally coordinated management plan for the whole stock area, which extends beyond the EU. The objective of the EU regulation is the protection, recovery, and sustainable use of the stock. To achieve the objective, EU Member States have developed Eel Management Plans (EMPs) for their river basin districts, designed to allow at least 40% of the silver eel biomass to escape to the sea with high probability, relative to the best estimate of escapement that would have existed if no anthropogenic influences had impacted the stock. ICES has evaluated the conformity of the national management plans with EC Regulation No. 1100/2007 (ICES, 2009, 2010) and progress in implementing EMP actions (ICES, 2013a, 2013b). The EU Member States produced progress reports in 2012 and 2015. The 2015 reports have not been post-evaluated at the time of writing this advice.
	The EC Regulation of 2007 (EC, 2007), establishing measures for the recovery of the stock of European eel, has not been evaluated by ICES for its conformity with the precautionary approach and has for this reason not been used as the basis for the advice.

The ICES Advice Process

European Commission requests: European eel “throughout its natural range”



National institutes

Data
collection

Data
processing

ICES

Expert
Group
WGEEL

Advice
drafting

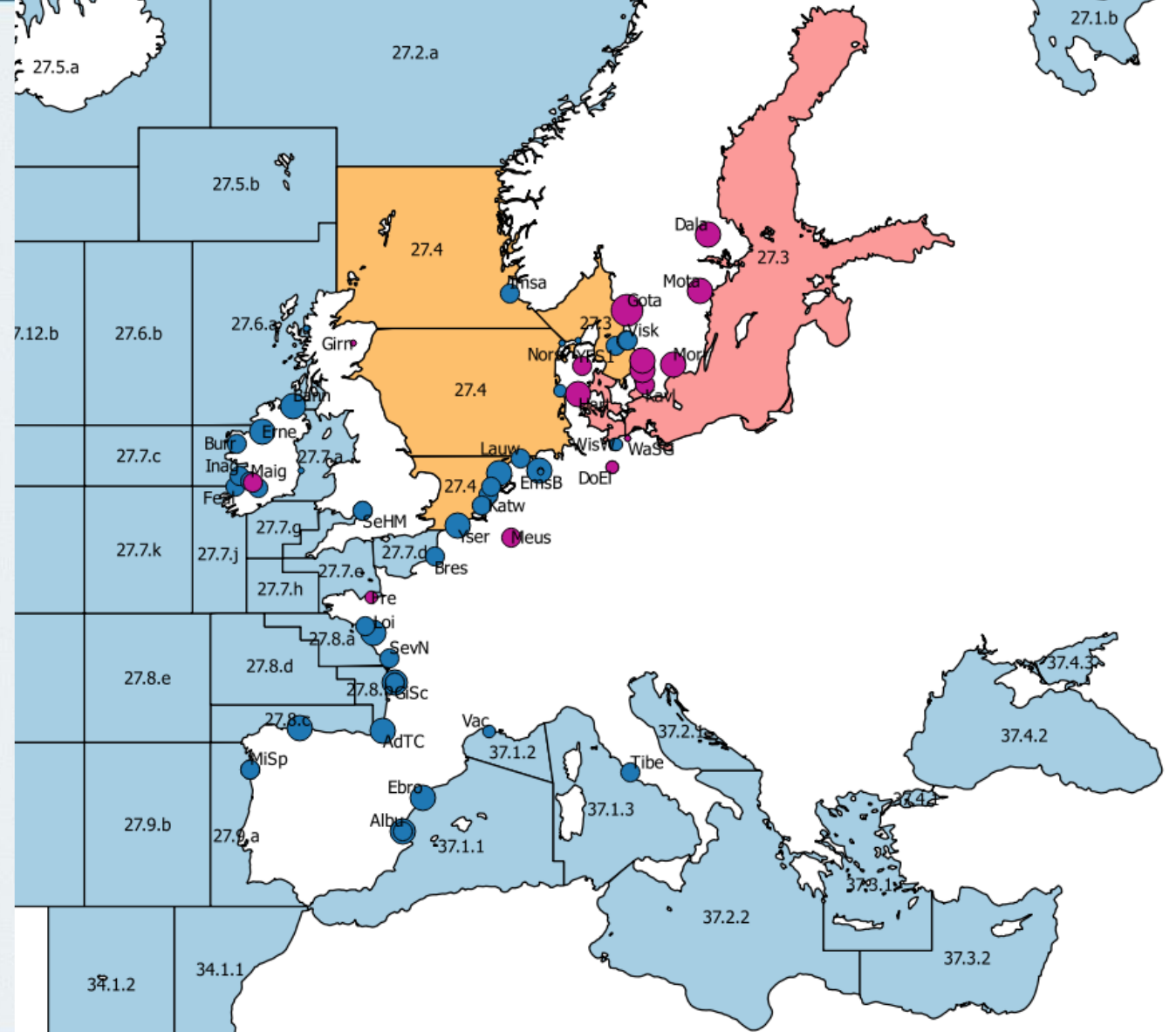
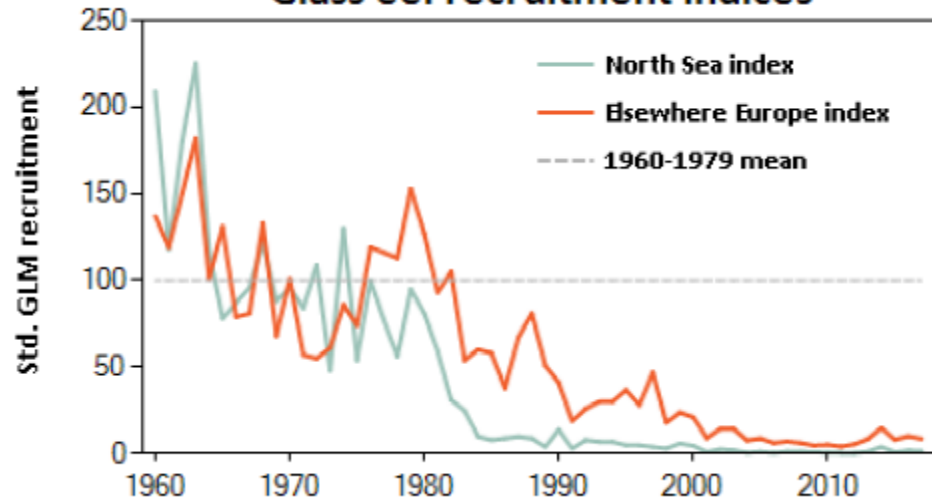
ACOM
Advice

Advice to
client

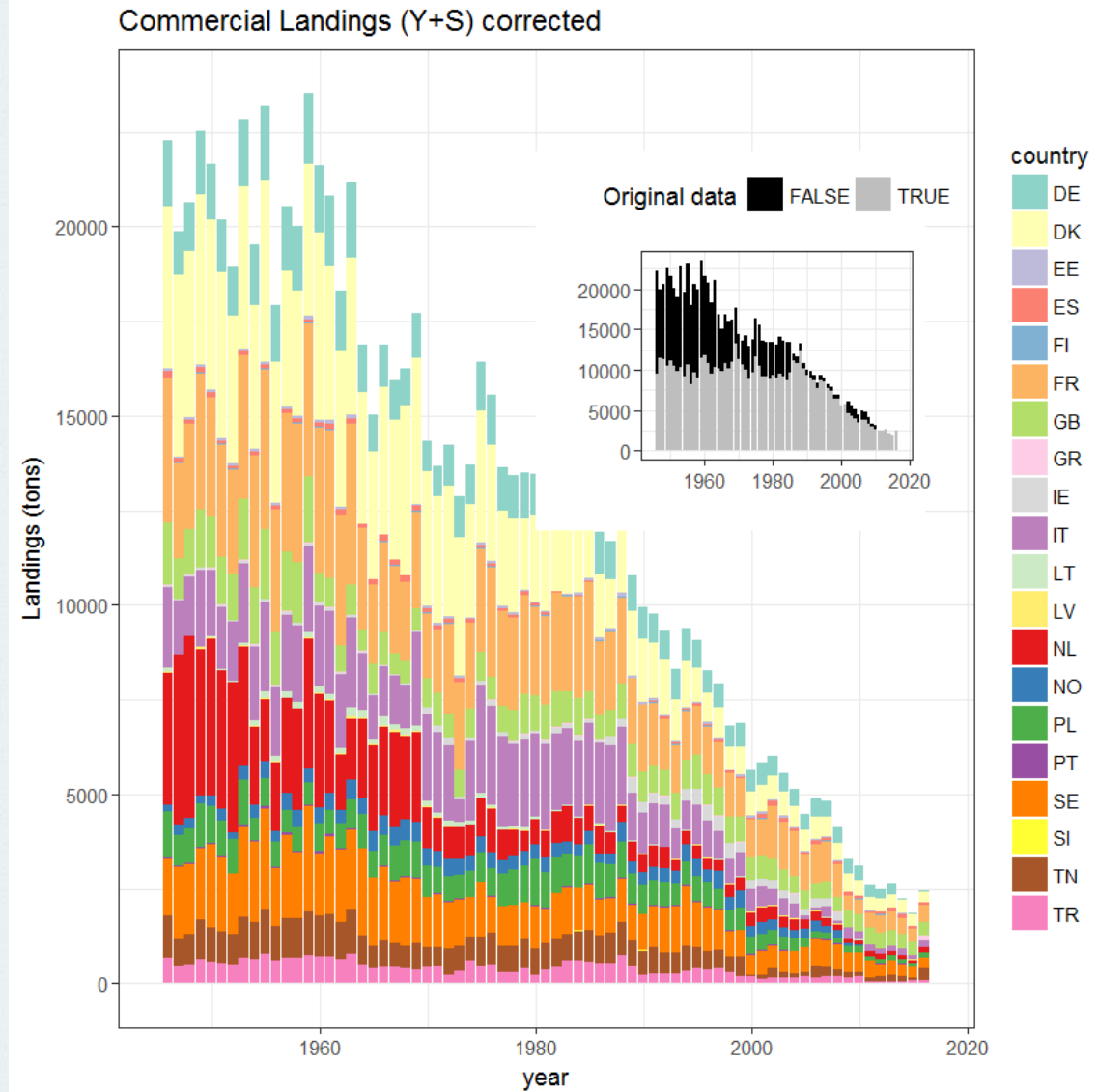
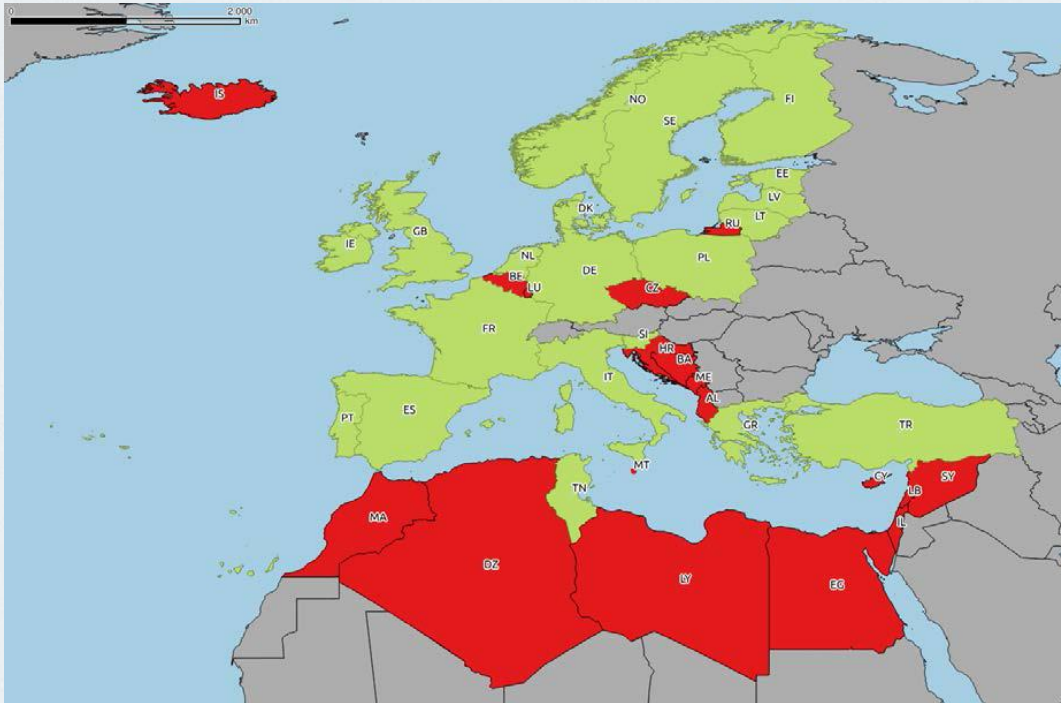
What does WGEEL need to support ICES and EU, and others?

Recruitment indices

Glass eel recruitment indices



Fishing catches



Biomass & non-fishing mortalities



Data reporting

National institutes

Data call 2017

1. Time series: recruitment, landings, aquaculture & stocking
2. Data QA'd before & during meeting

Data call 2018

1. Update: recruitment, landings, aquaculture & stocking
2. Time-series: silver eel biomass estimates, silver eel mortality (biomass + rates) and silver eel indexes.

ICES

Eel Database

1. Recruitment
2. Landings
3. Aquaculture & stocking
4. Stock indicators (3B & A)
5. Silver eel Index time-series.
6. Eel quality
7. Developing in line with ICES and Regional Databases



EU Data Collection Framework

Specifies data to be collected for assessments

Provides co-funding



Developing science & Knowledge exchange

Data:

WKAREA (2009): Age Reading of European and American Eel

WKESDCF (2012): Workshop on Eel and Salmon DCF Data

WKEELDATA (2017): Workshop on Designing an Eel Data Call

WKTEEL (2018): Workshop on tools for eels



Measures:

WKEELCITES (2015): Workshop on Eel and CITES

WKSTOCKEEL (2016): Workshop on Eel Stocking



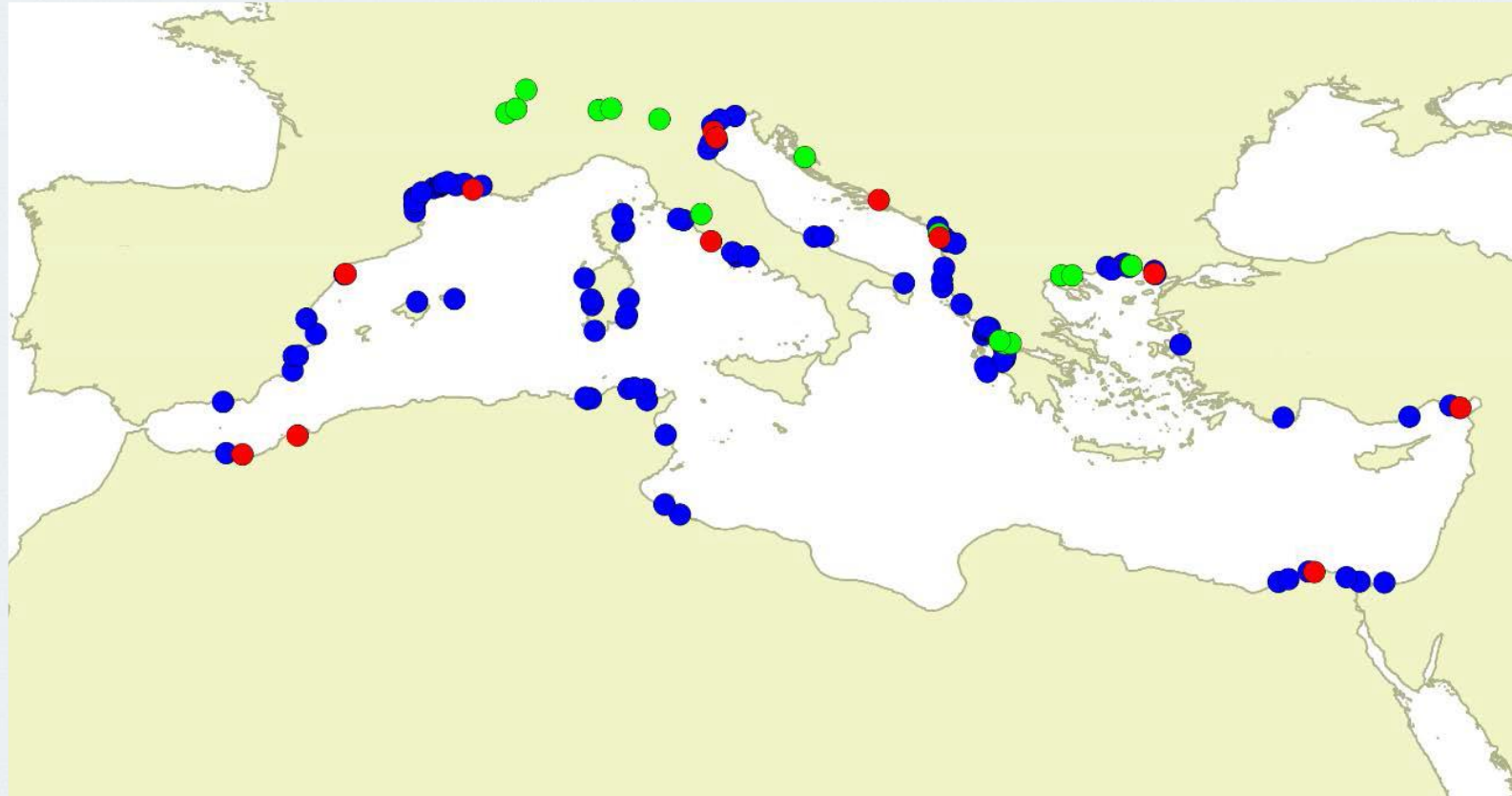
Biology:

SGAESAW (2009): Study Group on Anguillid Eels in Saline Waters

WKBECEEL (2016): Workshop on biological effects of contaminants



WGEEL – GFCM 1st assessment across the Mediterranean region



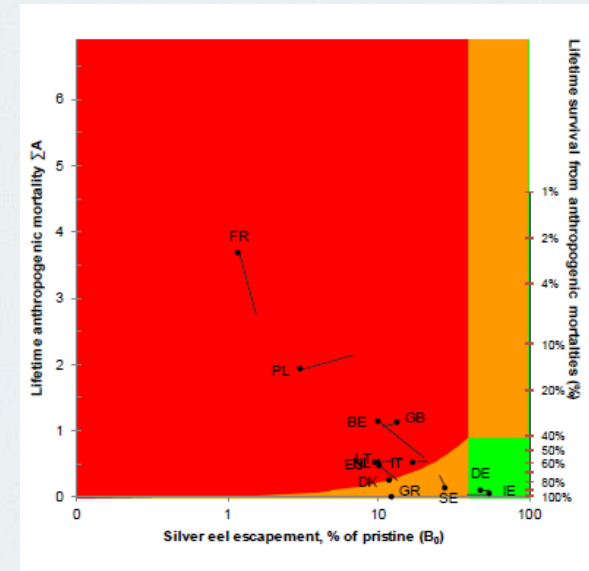
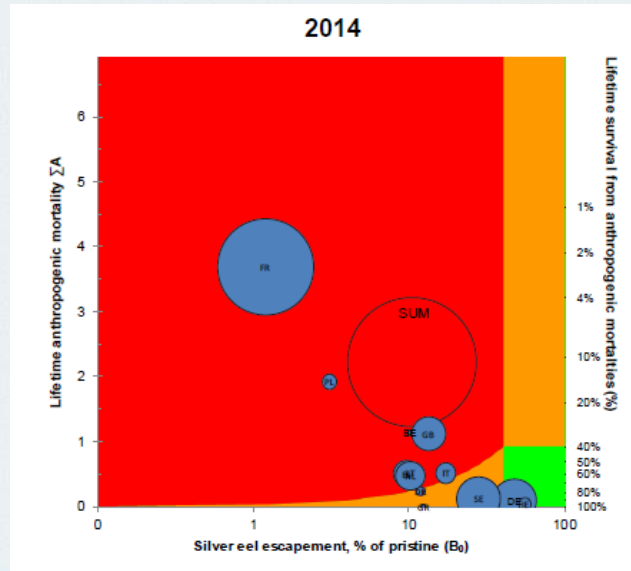
Evaluating progress

SGIPEE (2010, 2011): Study Group on International Post-Evaluation on Eels

WKEPEMP (2013): Workshop on Evaluation Progress Eel Management Plans

RGTEMPP (2016): Review the Trans-border management plan of the Pregola River and Vistula Lagoon

RGMAREEL (2017): Assessment of marine eel fisheries impacts



Evaluate and adjust

2017 – Community Water closures

2018 – EU ROADMAP

- (1) An evaluation of the management, implementation and enforcement issues, including trade aspects;
- (2) An ICES assessment of the 2018 Member States' EMP progress reports for the biological part, and the recurrent ICES Advice;
- (3) Analysis of the use of the European Maritime and Fisheries Fund for the implementation of the Eel Regulation.



[European Commission](#) > [Law](#) > [Have your say](#) > [Published initiatives](#) >

EVALUATION AND FITNESS CHECK ROADMAP

Evaluation of the Eel Regulation

Summary – supporting Range States in:

Data collection:

- recruitment,
- fisheries
- other impacts
- progress with measures

Reporting:

- contribute to the Data calls

Implementing & evaluate recovery measures

Exchanging knowledge



Thank you for listening, and now

