Sustainable *Eel* Group

The need for the

The SEG Standard

A Code of Conduct for a Responsible Eel Sector

The background to the SEG Standard, the part it plays in the recovery and sustainable use of the European eel, and why a revision is needed

The European eel is at a historical low. If fishing and eating of this vulnerable species is to continue, it must be done responsibly; and in such a way as to play a part in the eel's recovery.

The Sustainable Eel Group (SEG) Standard sets the criteria for the most protective forms of fishing, handling, trading, farming and consumption of eel. Those trading in eel according to this code of good conduct can be claim to be doing so responsibly.

The SEG Standard is a voluntary certification system to provide assurance for the traceable supply of responsibly sourced European eel.

Amendments

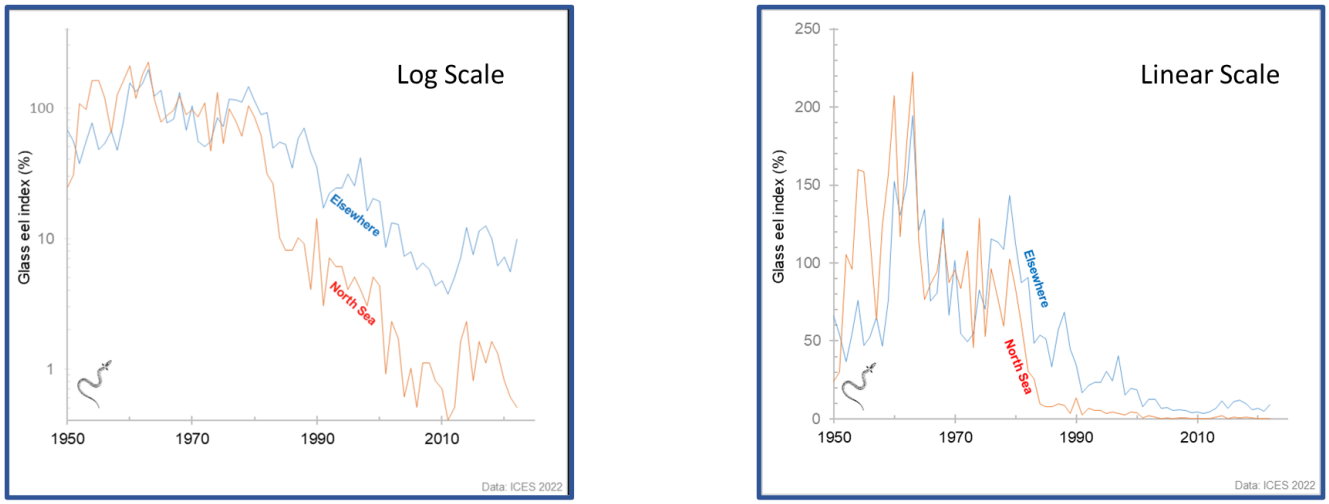
Version No.	Date	Description of Amendment
1.0	30 January 2023	Original publication

Contents

1. European eel stock status

The population of the European eel, *Anguilla anguilla*, had been declining for a century or more, before it was formally recognised by ICES (the International Council for the Exploration of the Seas), around 2000, that it was in a depleted and vulnerable state and in need of protection. There was, and still is, widespread agreement across Europe that more effective action is required to restore the eel population to biologically safe levels.

Figure 1. Long term European eel population indices. Source: ICES 2022.



Note that '**Elsewhere**' accounts for over 90% of the recruitment.
Around 1.3 billion glass eel arrivals is an indicated arrival volume from a 2017 ICES study

The reasons for this decline are uncertain but include overexploitation, pollution, non-native parasites, diseases, migratory barriers and other habitat loss, mortality during passage through turbines or pumps, and/or oceanic-factors affecting survival and/or migrations. These factors affect local production differently throughout the eel's range. In the planning and execution of measures for the protection and sustainable use of European eel, management must therefore take into account the diversity of regional conditions (ICES 2017).

Whilst the stock is at an all time low, the decline appears to have halted from about 2011, two years after, and perhaps in response to, the implementation of the EC Eel Regulation, 1100/2007.

Whilst the halt in the decline gives us hope of recovery, the eel is a long-lived species, averaging 15 years between generations. If it can recover over several generations it will therefore take many decades to recover. And because the factors affecting eel survival are many and complex, and the options to resolve them are also many, complex and challenging to co-ordinate across many countries, full recovery will take a long time and a lot of effort.

2. Eel protection policy and the SEG approach

In response to the eel's decline, there have been a number of developments seeking to protect the eel and effect its recovery:-

- the development of the EC Eel Regulation 2007

- the species being classified as 'Critically Endangered' by the IUCN in 2008
- the banning of exports of eel outside of the EU under the CITES Convention in 2009
- the creation of the Sustainable Eel Group in 2010
- the Control of Migratory Species (CMS), however this is not yet fully developed and adopted
- ICES advice

Some of these in more detail:

The EC Eel Regulation 2007

The European Commission's Eel Regulation 2007/1100 is the most significant and effective piece of legislation for the protection and recovery of the eel. It was formulated with the help of ICES input in the early 2000s, approved in 2007 and implemented in 2009. It provides a framework for the 'protection and sustainable use', and 'recovery' of the European eel stock.

SEG's approach is to support the EC Eel Regulation and to underpin it by integrating parts of it into the SEG standard.

SEG is supportive of the Eel Regulation because [reference]:

(1) There is sound science by ICES and the Precautionary Approach behind it, with the aim to achieve the target of 40% eel survival, enabling the European eel population to recover over generations;

(2) There is a common centralised objective, but the regulation provides distributed control requiring and allowing subsidiarity at member state level to create their own eel management plans to achieve the 40% survival target, specific to the social, environmental and economic requirements of their country;

(3) It aims for a comprehensive policy, addressing both fisheries and non-fisheries issues without precedence.

Our support to the Eel Regulation is therefore the foundation of our strategies for eel protection and recovery. The weakness, and limited progress so far has not been the Regulation, which was found by an independent review in 2019 to be fit for purpose, but the effectiveness of some eel management plans, and the individual and collective commitment to implement them by member states.

That is why our #EelDeal2030 campaign is pressing for all members states to have effective plans in place by 2030, and there to be a robust feedback mechanism of monitoring and improvement organised by the European Commission. The need for more concerted action was agreed at the EC's AGRIFISH Council meeting of 26 September 2022.

We overtly support the Eel Regulation in our policies and statements and some key parts of it are underpinned further by being integrated them into our certification scheme.

Reference: Dekker, 2019: Annex 10, Working paper – Precautionary management of the European Eel. Joint EIFAAC/ICES/GFCM Working Group on Eels, Bergen (Norway), 27 August–2 September 2019. ICES / WGEEL.

IUCN

The IUCN classifies the European eel on its Red List of Threatened Species as Critically Endangered. The main argument for that status is the rapid decline in recent decades. SEG considers that a stock

as abundant and widespread as the eel is at low risk of extinction, but still needs responsible protection, and that a blanket ban on all fishing, would be counter-productive.

IUCN states in its 2016 Guidelines for Appropriate Uses of IUCN Red List Data:

> *'8. The Red List is not, on its own, a system for setting conservation priorities'* and…
>
> *'Well regulated trade can contribute positively to the conservation of some threatened species and may be essential for human livelihoods.'*

So, IUCN's guidelines suggest that the eel can be fished as long as the trade is well regulated. That is what we aim to achieve with the SEG standard.

CITES

In 2009 the eel was classified by Cites such that, with the EU's application of those regulations, European eels could no longer be exported outside of the EU's borders, except by permit and under special circumstances. That effectively banned the previous practice of exporting glass eels from Europe to Asia, to be grown on in eel farms for the table and export around the world (e.g. for 'Unagi').

From 2009, the once legal trade grew into illegal trade, and in 2016/17, 100 tonnes of glass eels were reported by Europol to have been trafficked. To put that into context: 100 tonnes is almost double the reported legal catch of glass eels in Europe; it is 300 million baby eels; it is nearly 25% of the annual number (1.3 Billion) of glass eels reaching European and African coasts; and whilst that 100 tonnes is worth € 100 Million to those trafficking them, their downstream value, once grown on, processed and sold, is worth € 3 Billion.

SEG has campaigned hard in the European Parliament to raise awareness of the scale and impact of eel trafficking. This has caused agencies in countries like France, Spain and Portugal to scale up their enforcement action and the number of arrests and seizures.

In 2022 Europol reported that its indicators on eel trafficking suggested that the scale of illegal export had reduced by 80%, to 20 tonnes. That saving is 240 million eels and represents 18% of the whole stock and more than the total legal catch in Europe (65 tonnes). This is a great achievement by all involved and our collective challenge is to maintain the pressure to keep reducing it as close as possible to zero.

ICES advice

The International Council for the Exploration of the Seas (ICES) is the resected international authority to provide scientific advice for fisheries exploitation. Its Working Group on Eel (WGEEl) focuses on advice for the European eel. It meets annually and reports in November on the trends in populations to that year, and provides its advice for governments on protection and exploitation.

Since 2007, ICES has advised consistently that all anthropogenic impacts on eel (fishing, barriers, hydropower etc.), should be minimised, i.e. 'kept as close to zero as possible'. This has allowed and influenced governments to reduce impacts according to what is politically acceptable in each country.

ICES advice in November 2022 was more emphatic, advising that all fishing (for consumption and restocking) should stop, and that other impacts should also reduce to zero. According to agreement in the European Commission on 12 December 2022, European countries have formed their separate responses to that advice.

The SEG standard

A standard for a single impact on the eel stock

There are many factors that have caused the decline of the eel population: climate change, pollution, habitat loss, barriers to migration, overfishing etc.

It is in this overly complex setting, that the Sustainable Eel Group took the initiative (in 2011) to develop a standard for a responsible eel fishing sector. This Code of Conduct is available to (regional groups of) individual fishers, traders, processors and aquaculturists. This code sets minimal conditions for a responsible level of exploitation, contributing to the implementation of the national Eel Management Plans and the EU Eel Regulation. However, given that the SEG standard addresses only the commercial fishing sector, it does not address all factors and all actors involved in eel management: issues related to water management, pollution, wildlife management, and loss of (accessibility to) habitats are not included.

The SEG standard deliberately addresses a single type of actor in a multi-actor environment, a single factor in a multi-factor process.

The context for this can be read in more detail in our 118 Certifying eel fisheries in a multi-actor environment.

The SEG standard defines the standards that those fishing, trading or providing eels for restocking or consumption must be met, if they wish to claim to be doing it responsibly.

Here we explain how SEG standard compliant fishing and trade can actually aid the eel's recovery:-

Much of the trade in glass eels is for restocking. They are moved from where they are plentiful and most die, to where they are sparse and more are likely to survive. This aims to create a greater number of eels overall and so a positive contribution to whole stock numbers – and one which makes up for those sold for consumption, i.e. causing a net increase in silver eel escapement, whilst also enabling a limited amount of responsible consumption.

Summary

The SEG Standard:

- Aligns with the EC Eel Regulation, which is for the recovery, protection and sustainable use of the eel stock,
- Is compatible with IUCN Guidance on its Red List of Threatened Species,
- Shows when well-regulated fishing or trade has a net positive contribution to eel protection,
- Supports the traceability of supply chains and anti-trafficking,
- Provides the individual fisher/trader/processor a means to show their trade is certified as responsibly sourced as indicated by the SEG or ESF logo,
- Provides choice to the consumer to purchase responsibly sourced eel.

3. Aim and objectives of the SEG standard

The overall aim of the SEG standard is to:-

Define the criteria by which fishing, trade, restocking and consumption of the European eel can be assessed for their sustainability and contribution to the protection of the eel population.

The objectives of the standard are to:-

1. Set the criteria by which fishers, traders, farmers and suppliers must act to be certified to be doing so responsibly,
2. Be SEG's tool to promote responsible fishing and trade,
3. Set criteria that are protective to the eel population by those activities today, thereby contributing to stock recovery tomorrow,
4. Promote the best practice techniques according to latest knowledge, evidence and science,
5. Avoid and reduce unnecessary eel mortality and to maximise survival, as an implicit element of that best practice,
6. Promote compliance with the law and international regulations.

4. History of the SEG standard

The first version of the SEG standard was created in 2010, one year after SEG was formed.

We first approached the market-leading Marine Stewardship Council (MSC) to consider the eel to be included in their system. MSC declined as the unique biology of the eel population didn't match their requirements. So, we commissioned an independent fisheries consultant, with much MSC assessor experience, to develop it. With that help, we developed and improved versions 1 – 4 from 2010 to 2012.

Version 5 was published in 2013. It was developed by fisheries consultants MacAlister Elliot & Partners, who had considerable experience of operating fisheries standards and, having conducted a number of SEG standard audits, now understood the eel sector well.

In 2016 the SEG Board took the decision that it wanted its sustainability system and objectives for eel protection and recovery to follow recognised credibility principles. We therefore chose to seek to become a member of ISEAL, the membership organisation for credible sustainability standards.

Version 6 of the standard was published in June 2018 according to the ISEAL Standard Setting Code of Good Practice. In September 2019 SEG achieved the status of Associate Member of ISEAL and this was converted in November 2020 to the new category of Community Member.

A new and full review to version 7 of the standard will happen in 2023 and there will be an extensive consultation programme to enable all stakeholders to contribute.

Also in 2023 we will also be enhancing our whole sustainability system (Standard Setting, Assurance and Monitoring, Evaluation and Learning) to be in full compliance of the ISEAL codes.

5. What has been achieved?

We believe a lot has been achieved through the SEG standard in its 12 years so far. Considered against the objectives in 3 above:-

1. Clear criteria, processes and an assurance and certification system have been created by which operators can be assessed for 'responsible use',
2. It is the only tool in Europe by which responsible fishing and trade can be demonstrated. By its existence, market demand and market penetration (see below), it has promoted the need to operate more sustainably in the eel sector,
3. The criteria have been set to a high standard which are designed to be protective to the eel stock. ICES data suggests that the eel stock stopped declining in 2011. We don't claim that we caused that – we believe it to be the effect of the Eel Regulation. But the SEG standard is designed to provide the same level of protection to the eel, to meet the 40% target, and in places it underlines the Eel Regulation, so we believe it is making its contribution, by helping the commercial eel sector to make its contribution, to protection of the eel stock to achieve the 40% escapement target.
4. It has promoted best practice techniques. For example, many French fishers have reduced their fishing mesh size, and/or are fishing more slowly. These are to treat glass eels more gently and to increase survival from fish handling.
5. Fish handling mortality has reduced. A scientific study in 2021 demonstrated how the SEG standard had helped to reduce fish handling mortality from 42% in 2007 in to 7.4% across the range of fishers in French estuaries. It was even less in SEG certified fishers.
6. It has promoted compliance with the law. For example, anyone convicted of illegal eel fishing or trade is restricted from SEG certification. It also upholds the Eel Regulation – for example certification is only achieved where the 60% restocking target, specified in the Eel Regulation, is met.

Consequently, from nothing in 2009 to now, in 2023:

- 85% of the glass eel fishers in France are SEG certified,
- 95% of the glass fishers in the UK are SEG certified,
- 100% of the legal market demand (40 tonnes) for glass eels in the EU and UK can be met through the SEG certified supply chain,
- 75% of the eels produced in aquaculture in Europe are SEG certified,
- 75% of smoked eel for consumption is SEG certified,
- SEG certified eels attract a higher price or better access to contracts and markets than non-certified. This has more than offset the costs of certification, and has also caused some businesses to survive whilst non certified businesses have been less successful,
- 60% of SEG certified glass eels caught are made available for restocking; meeting the target of the 2007 EC Eel Regulation,
- There is strong demand for SEG certified eels and fishers and traders in the supply chain are much more aware of the eel's plight and the part they can play in the eel's recovery and the need to act responsibly,
- The SEG system has played its part in influencing a major reduction in illegal trafficking of glass eels to Asia. Europol has estimated that it has reduced by 80%: from 100 tonnes in 2016/17 to 20 tonnes in 2021/22. 80 tonnes saved is 240 million baby eels. That is double the size of the legal catch in Europe, and a very significant 18% of the total estimated annual recruitment of 440 tonnes / 1.3 billion glass eels.

6. What has not been achieved?

Some objectives have not been achieved and there have been some unintended consequences:-

1. Whilst much of the glass eel market is within the system, we have yet to attract any wild yellow eel fisheries;
2. We have yet to make much difference in countries outside of France, the Netherlands, Germany, Sweden, Denmark and UK. There are further fisheries, traders and eel farms to attract in Spain, Portugal, Italy, Greece and Northern Ireland;
3. Whilst there is a standard for restocking, no restocking operators have sought certification;
4. There are also criteria for 'healthy aquatic ecosystems' for water engineering operators to demonstrate that their operations are eel friendly. Again, there has been no take up for this;
5. There is a lack of awareness and / or confusion about the SEG label. It is currently a business to business scheme and consumers have little awareness of the ability to purchase SEG certified, responsibly sourced eel. We intend to introduce a new, universal, business to business and business to consumer label, to resolve this confusion:

6. There is also confusion and debate about the term sustainable. Whilst we aim for a sustainable future for the eel, until that is achieved and recognised, we use the term 'responsible' or 'responsibly sourced' for those that have met our Code of Conduct;
7. The eel sector is small and niche. Where there are a small number of players and one has an advantage by achieving the SEG standard, that can give the perception to others of having created a monopoly;
8. There is not universal acceptance of the scheme amongst fishers and traders. Some believe it has been created by people from other countries whose motives don't match theirs;
9. There is not universal acceptance of the scheme amongst scientists, conservationists and eNGOs. Many believe that the IUCN categorisation of the eel as critically endangered, and the ICES advice to stop all fishing, means that the eel shouldn't be fished at all and therefore that the SEG standard has no place.

7. What are the main issues now?

The main issues at present are political, notably the debate over whether eel fishing and consumption can or should continue when the eel population is in such a vulnerable state. We believe that fishing can continue, at a low rate (the current catch of 60 tonnes of glass eels is 9% of the 440 tonnes of recruitment, well below the 60% mortality ceiling target); and when 60% of glass eels are allocated for restocking (1) they enhance populations elsewhere and (2) the 9% take is actually 5%.

ICES has rightly been advising to minimise all anthropogenic impacts on the eel. Since the introduction of the Eel Regulation in 2009 fishing effort (number of boats, licences, restrictions to season, quotas) has reduced by approx. 50%. That is of a sector that perhaps impacted the eel population by 10% - now 5%.

By far the greatest impact on the eel has been habitat degradation, habitat loss, barriers to migration, pumps and turbines – the effect of hundreds of years of industrialisation, flood management and land reclamation. This gradual degradation has probably caused 50 – 80% of the impact on the eel population. Whilst legislation like the Eel Regulation and Water Framework Directive and other initiatives like Dam Removal Europe and World Fish Migration are slowly reversing or mitigating these impacts, the rate of impact is much slower than the change made by fisheries, and with minimal impact on personal livelihoods, compared to those who have stopped fishing.

The ultimate conclusion of the ICES advice it to reverse all habitat impacts. Are we going to remove all flood defences and let properties flood to allow eel habitats to return? No, that is not realistic or pragmatic. We argue that the impact and reduction of fisheries should be equitable and equally pragmatic.

Further, we only really know that eels have declined because humans fish for and eat them. Without that history and tradition we wouldn't know or care about the state of the eel population. If fishing was to stop completely, there would be no more human association with eel, no one would care; monitoring of populations would probably stop and pressure to reduce the impacts of habitat loss and migration barriers would fade. Eel recovery would probably slow as a result, but no one would know because monitoring would stop and no one would care because we no longer fished or ate them.

Furthermore, when legal, well regulated fishing stops, experience tells us that, without the eyes and ears of the legal fishers, illegal and unregulated fishing moves in. The fishing would go underground, unregulated and unmonitored.

Lastly, we make the case that the Eel Regulation should be given the opportunity to be effective, before more extreme measures are taken. It will take several 15 year eel generations to see any meaningful recovery for the eel. That is 50 – 60 years. It is 13 years since the Eel Regulation started taking effect in 2009; not yet one full generation, and in that short time the decline in glass eel recruitment halted in 2011, with some hints of recovery since.

8. What are the tactical choices?

Whilst ICES provides scientific advice, it is for the governments of countries with the European eel to interpret that advice and apply it as each sees best to suit the needs of their citizens and their eel populations, and in conjunction with their Eel Management Plans.

Where countries continue to permit eel fishing, we will continue to promote the best possible, most responsible and well regulated practices, via the SEG standard.

In revising the SEG standard, we have the following tactical choices:

1. **To certify or not the provision of glass eels for direct consumption**
    - For example as 'Angulas' a cultural tradition in Spain. A meal of Angulas uses many eel lives, whilst a meal of smoked or jellied eel uses only a portion of an eel life. Eating glass eels could therefore be regarded as wasteful.
    - On the other hand, eating glass eels is a tradition in some countries, and they come from the consumption quota, for which there is scientific justification. On balance, at present, SEG would support this tradition where it meets the SEG standard.

2. **To certify or not fishing for yellow eels**
    - Yellow eels are those between the elver and silver eel phases. Fishing across Europe takes many forms and traditions. It is also the phase in which recreational fishing (angling) takes place. In angling, eels are sometime fished for sport (i.e. they are released after capture), or for consumption.
    - There are currently no SEG certified yellow eel fisheries. They are however a significant part of the total fishery. We would like to encourage and promote certification – the key criterion being whether the local fisheries authority has scientific evidence that the fishery is justified (i.e. is 'sustainable'). Generally, we might wish to see fisheries authorities increasing the minimum sizes for capture, as that is likely to increase overall survival.
    - Yellow eel fishers are usually not well organised or represented. We will need to find better ways to engage with them, and we encourage yellow eel fishers to come together as co-operatives.
    - There is currently no standard for angling. The overall take of yellow eels by the thousands of anglers across Europe, is likely to be significant. SEG could consider certifying angling, however, what would be the unit of certification? An angler? An angling club or fishery? An Eel Management Unit? A region? A country? It is likely to be too complex and/or too dispersed to progress SEG certification of recreational eel fishing.

3. **To certify or not fishing for silver eels**
    - Silver eels are those that have started their spawning migration; they have survived a number of years in the continental habitat, are the closest to spawning of any life cycle phase and are part of the 40% silver eel escapement target that the Eel Regulation targets.
    - In the current SEG standard we would certify silver eel fishing where the regulatory authorities have evidence that it is permissible. However, as these individual eels are so precious as potential spawners, some people see such fisheries as a target for restriction.

4. **To certify or not restocking**
    - There are criteria in the current standard for restocking operations. However, no one has yet sought SEG certification. A number of organisations bid for tenders for contracts for restocking; many funded by the European Marine, Fisheries and Aquaculture Fund (EMFAF).
    - We would like to see such operators seeking certification to ensure they applying best practice. We would suggest that those setting the tenders should specify SEG certification for restocking as a contract requirement.

5. **To certify or not water operators**
    - There are criteria in the current standard to recognise where water operators (power companies, flood managers etc.) have mitigated for the damaging effects of their pumps, sluices, weirs dams or turbines. However, no one has yet sought SEG certification.
    - Should we continue to seek to encourage this through SEG certification (and to also attract eel conservation funding via Eel Stewardship Funds), or should we influence that in other ways?
    - For example by relying on the legislation to do its work, to support aquatic conservation projects and partnerships and to maintain the pressure on governments and agencies to apply legislation such as the Eel Regulation and the Water Framework Directive?

9. The need for a revision

The SEG standard now requires revision because:-

- In the four and a half years since the last version, the sector and the market has developed,
- we have learnt a lot a lot from the application of the standard from our own audits and certification and feedback from certified operators,
- we have also had a lot of feedback from other stakeholders, e.g. eNGOs, governments, agencies and scientific organisations,
- scientific evidence and advice has developed,
- We wish to continually improve the standard and its impact in driving sustainability for the eel,
- Under the ISEAL standard setting code, we should review the standard at least every five years.

10. What happens next?

- The Sustainable Eel Group will start a revision of the SEG standard in February 2023 with the aim of publishing Version 7 by December 2023.
- The revision will be conducted according to the 102 SEG Standard Development and Revision Procedure and 114 SEG Standard Revision 2023 ToR as agreed by the SEG Board.
- All SEG stakeholders will be invited to comment on the standard. We will use those comments to create the next level of ambition for eel sustainability – to engage a wider audience and to promote a responsible and increasingly sustainable eel sector whilst enabling protection and recovery of the European eel.
- You will be invited to comment on the current standard, and supporting documents, such as this one.
- Please look out for notices and updates via Twitter (@eelgroup) and on our website at: https://www.sustainableeelgroup.org/standard-revision/ .
- You can email us at: standard@sustainableeelgroup.org