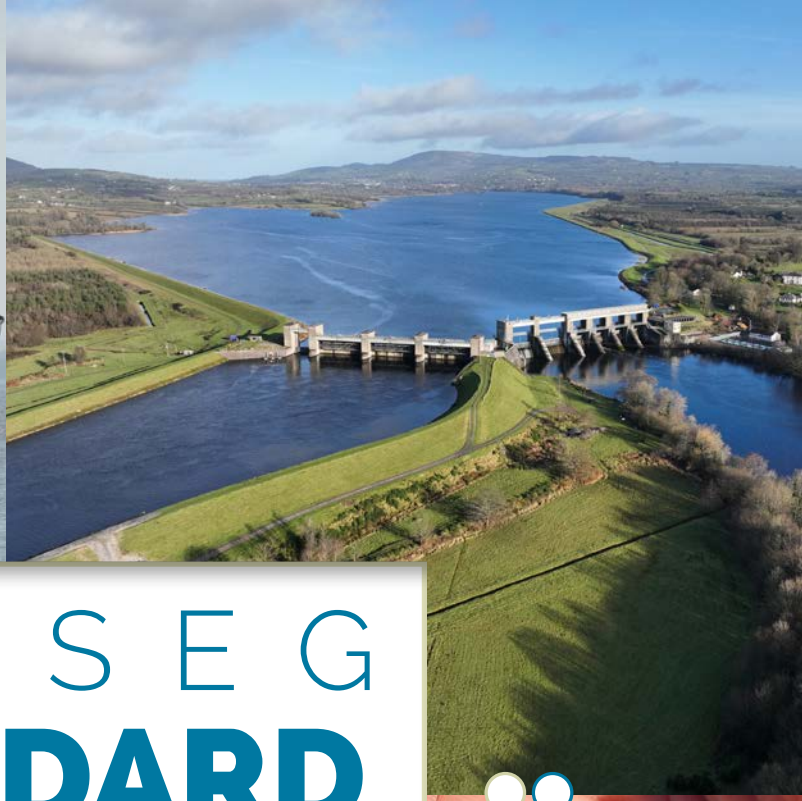
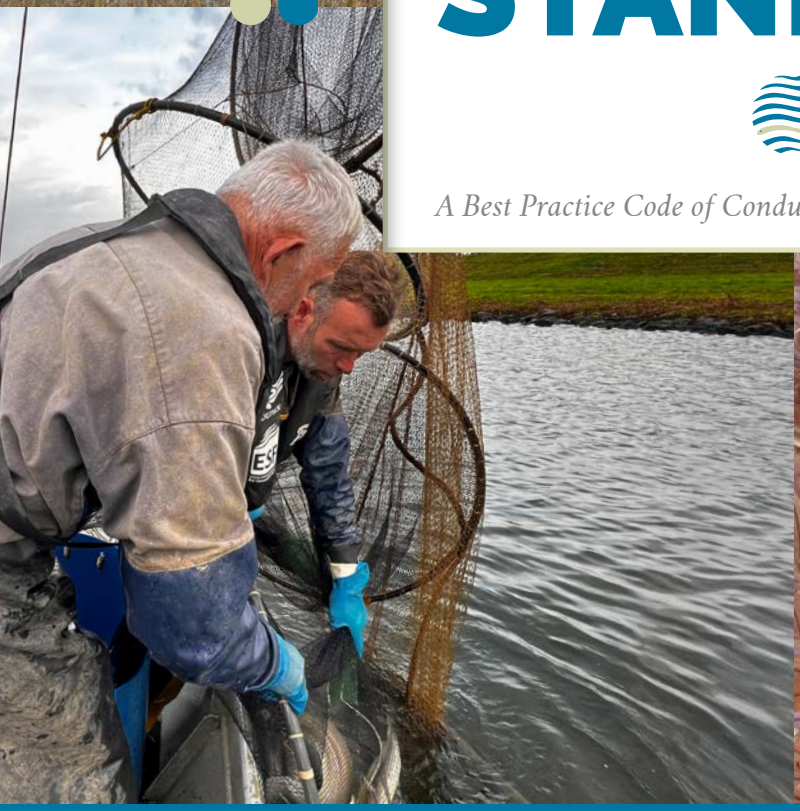
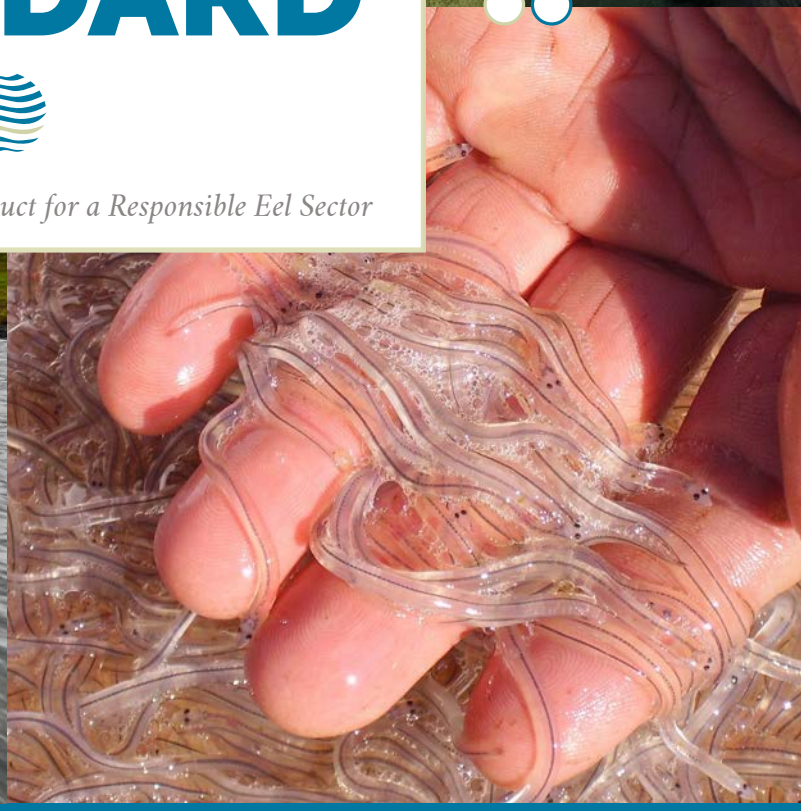


# THE SEG STANDARD

*A Best Practice Code of Conduct for a Responsible Eel Sector*





Sustainable *Eel* Group

iseal CODE COMPLIANT

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# Versions Issued

| VERSION NO. | DATE | DESCRIPTION OF AMENDMENT |
|---|---|---|
| 1 | November 2010 | Initial version prior to pilots |
| 2 | January 2011 | Amendments to standard following further pilots |
| 3 | 13 May 2011 | Amendments to standard following further pilots |
| 4 | 15 Nov 2012 | Addition of Traceability section, amendment of standard |
| 5 | 21 June 2013 | Review of all components of the standard, new draft prepared for review |
| 5.1 | 17 October 2016 | Update to account for changes to SEG website as.org instead of.com |
| 5.2 | 25 November 2016 | Removal of link to extant document |
| 6.0 | June 2018 | Substantial revision over 12 months and extensive stakeholder consultation |
| 6.0a | December 20 | Minor revisions following auditor feedback |
| 6.1 | July 2022 | Minor revisions following auditor feedback |
| 7.0 | 16 November 2023 | Substantial revision over 12 months and extensive stakeholder consultation |
| 7.1 | 21 December 2023 | Update to section 1 to clarify legal jurisdiction |
| 7.2 | 17 January 2024 | Update to Criterion 1.4 to clarify that segregation in tanks applies to all operators, not just eel farms |
| 7.3 | 1 November 2024 | Change of registered address |
| 7.4 | 1 May 2025 | Update to UBO clause, section 9.3 & criterion 1.6; update to ICES glass eel index graphs |

Sustainable *Eel* Group

## Contents

## 1. Applicability and responsibility

The Sustainable Eel Group (SEG) is responsible for the content and publication of the SEG standard.
The official and working language of the SEG standard is English. It is translated and made available currently in French, Dutch, German and Spanish. Other translations will be provided on request. All translations are made with oversight and responsibility by the Sustainable Eel Group.
The official language of the standard and associated system is English. In the case of any inconsistency caused due to translation, the default English version shall be referred to.
It is applicable from 20 November 2023.
The latest version, and translations, are available at: https://www.sustainableeelgroup.org/download/
Users of the standard (clients and conformity assessment bodies) are responsible for ensuring they are using the latest version at the time of assessment.
The SEG standard is reviewed at least every five years. The next full revision is due in 2028.

The SEG Standard crosses national boundaries and is intended to apply to the capture and trade in the European eel across its natural range (see section 4. below). However, SEG is a Belgium registered organisation and therefore EU Law has primacy and companies and organisations wanting to be assessed to this voluntary standard must be fully compliant with all relevant EU legislation.

SEG has worked hard since 2010 to build its reputation, demonstrate its credibility, and has influenced major changes in the eel sector across Europe and beyond. The SEG Board is proud of its achievements and will continue vigorously to pursue its aim of recovery and sustainability for the European eel. SEG will take all reasonable measures to protect its reputation, and this standard.

## 2. The Sustainable Eel Group – our purpose

The Sustainable Eel Group (SEG) is the leading international collaboration of scientists, conservation groups, the commercial sector and advisors, solely dedicated to the protection and recovery of the European eel (*Anguilla anguilla L.*) We are a not-for-profit, non-government organisation, with registered offices in Brussels and the United Kingdom and with collaborators from across Europe and beyond. Our influence must be Europe-wide to help the European eel, which is a single, mixed, genetically similar, panmictic stock. We are a group of dedicated professionals, committed to the long term recovery and sustainability of the European eel. This is reflected in our name.

### Our Vision

**We wish to see:**

> Biologically safe wild eel populations, distributed throughout their natural range, fulfilling their role in the aquatic environment, recovering in line with the protection targeted by the Eel Regulation.

**Given the depleted state of the stock, this requires major protection and recovery.**

This is defined in more detail, with the strategies designed to achieve these, in our 009 Theory of Change[1].
The stock of the European eel is distributed from the North Cape towards the Nile Delta, and in almost all continental waters in between. A major part of that area is within the European Union which has adopted a protection plan for the Eel, known as the Eel Regulation (Council Regulation (EC) No 1100/2007)[2].
Additionally, the Convention on International Trade in Endangered Species (CITES) has listed the Eel on Annex II, regulating the international trade in Eel (across EU-outer-borders). Noting that the Eel Regulation and the CITES listing aim for protection and recovery, as we do, and that both have a binding legal status, our actions are largely aligned with these, and we set ourselves the aim to accelerate their implementation, or, where possible, go beyond them.

## 3. The purpose of this standard

This standard has been developed as part of our solution for the recovery of the European eel. The objectives of this standard are defined in the 114 Terms of Reference [1] for its revision. They are summarised as follows:

### The aim of the SEG standard is to:

**define criteria by which each step in the chain of custody in the commercial eel sector can be assessed for its responsible minimisation of negative impacts and contribution to the protection and recovery of the eel population,**

### with the objectives to:

a) define how implementation at the level of each individual certificate holder is responsible, in the relation to SEG's sustainability objectives,
b) support the collection and availability of the data necessary to monitor the efficacy of the standard in achieving those objectives,
c) provide the possibility for operators to demonstrate high and responsible standards,
d) drive high and responsible standards throughout the supply chain, from fishery to consumer,
e) provide confidence to retailers and consumers who wish to buy responsibly,
f) define and certify higher standards of practice than just following the law,
g) be compatible with other relevant standards,
h) reduce and discourage illegal eel fishing and trade,
i) support the implementation of the Eel Regulation, the CITES listing and other relevant laws.

## 4. Scope

The SEG standard applies to the fishing, aquaculture, trade and transportation of the European eel *Anguilla anguilla* (Linnaeus, 1758) and eel products within coastal, estuarine and freshwater systems throughout its natural range.
The standard includes provisions for the monitoring of the trade in live eels and for the trade of eel products from source fishery to end consumer.
Geographically, it covers the natural biological range of the eel in its continental phase, from North West Africa, to the Mediterranean, to the whole of Europe, to the North Cape of Scandinavia. Illegal trade transcends those boundaries – routes are via European and North African outlets mostly to the Far East; predominantly China.

1) https://www.sustainableeelgroup.org/wp-content/uploads/2024/01/009-SEG-Theory-of-Change-V2.0.pdf
2) https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32007R1100

1) https://www.sustainableeelgroup.org/wp-content/uploads/2023/11/114-SEG-Standard-Revision-2023-ToR-V2.0.pdf

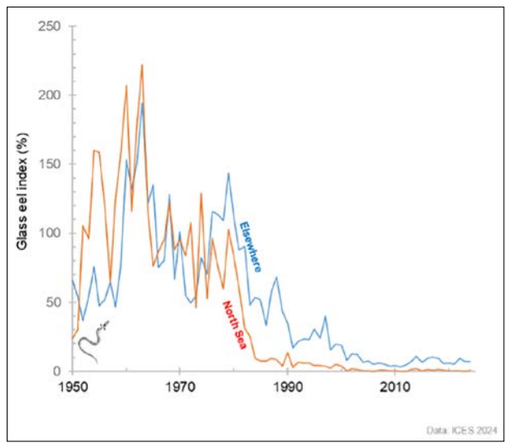
# 5. Responsible use and the European eel

## 5.1 The Decline of the European eel

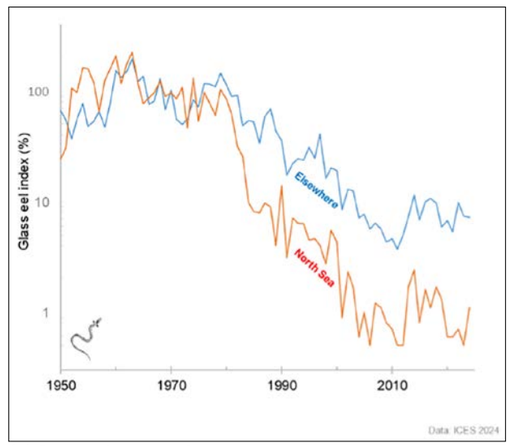
The eel stock is currently at a historical low, after a decline of many decades (if not centuries). Stock abundance and fishing yield have declined gradually since at least the mid-1900s, and the recruitment of young eels from the ocean declined rapidly from 1980 until 2010. If nothing had changed then extinction might have loomed eventually. In 2007 however, the EU adopted the 'Eel Regulation', setting a framework for protection across Europe, to recover the stock to its historic level of abundance.

Long-term time trends in a) recruitment, b) fishing yield and aquaculture.
Data: a) ICES 2024 [1], b) Dekker & Beaulaton 2016.

a) Recruitment as Glass Eel Index (ICES data, 2024)

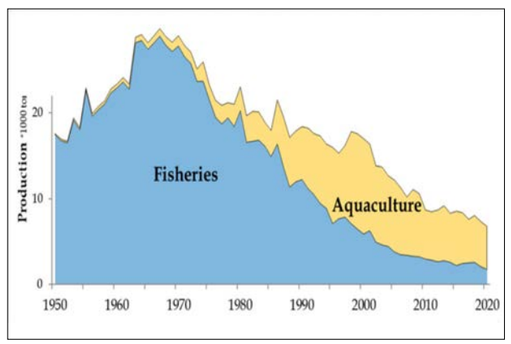



(i) Linear scale




(ii) Logarithmic scale

b) Landings and aquaculture




Since 2011, the 30-year decline in recruitment has come to a halt, and current recruitment is at 1-10% of the 1960 - 70's level. Both the North Sea index and the Elsewhere index now vary on a low level, with little trend. That is: the recruitment has stabilised after 2011 at low level, but it has not recovered.
The timing of this suggests that the change in trend might be related to the implementation of protective measures under the Eel Regulation, but a causal link cannot yet be proven or disproven.

1) https://ices-library.figshare.com/articles/report/Joint_EIFAAC_ICES_GFCM_Working_Group_on_Eels_WGEEL_/27233457/3

## 5.2 Impacts on the eel in a multi-actor system

The decline of the eel stock over the last century (or longer) likely relates to habitat loss (land reclamation), blocked migration routes (water management), overfishing (on all life stages), pollution of many kinds (chemical, sewage, agricultural), and possibly many other man-made factors. There are thousands of professional fishers, millions of recreational fishers, many millions of people living in reclaimed habitats, and even more of us depending on good water management – and each and every one of them makes some sort of an impact on the eel stock. That is a multi-actor system.

Millions of people with an impact, and that impact varies from direct and deliberate fishing, to very indirect impacts (run-off from inhabited areas); from permanent impacts that can be reduced or reversed, to largely irreversible impacts such as loss of habitats and water management. A multi-factored decline, necessarily addressed in a multi-actor environment, over a vast geographical range.

It is in this overly complex setting, that the Sustainable Eel Group took the initiative, in 2010, to develop a standard as a code of conduct for the eel fishing and trading sector. The standard sets minimal conditions for responsible exploitation, complementing the implementation of the national Eel Management Plans and the 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 primarily aimed at. Because of that, the standard does not influence all factors affecting the stock, and therefore, the standard does not formulate its goals in terms of the net outcome, influenced by the sum of all those factors, but in the effort made, and how that relates to the options available.
Application of the SEG standard by itself, therefore, does not guarantee to provide adequate protection to achieve a sustainable fishery or recovery: on its own the commercial sector is not able to achieve these shared objectives. Whilst contributing to the shared objectives as a responsible actor, the certified commercial sector cannot be held responsible for the net outcome as influenced by all parties. It is only in the national Eel Management Plans (EMPs) and the Eel Regulation, that all factors and all actors can be addressed, and therefore, it is only at this level that the net outcome can be evaluated.

Whilst the Eel Regulation and many EMPs permit the continuation of eel fishing, despite the current ICES advice to cease fishing and all other man-made impacts, this standard is designed to require the most responsible practices across the eel fishing and supply sector such that, where fishing and trade are permitted, standards are raised and avoidable impacts are minimised. For our position on the ICES advice on human impacts see: https://www.sustainableeelgroup.org/wp-content/uploads/2021/11/SEG-considers-Zero-Catch-advice.pdf.
Aiming for a responsible commercial sector and subscribing to the governmental policies to protect and restore the stock, we expect the commercial sector to contribute fully to the national management plans and live up to the consequences for their practices.

## 5.3 The journey towards sustainability and recovery

If sustainability and recovery for the eel is in the future, then we consider that we are currently on a gradual and step-wise journey which is likely to take several decades. See the diagram below.
So, this standard describes 'best practice' and 'responsibility', for the eel fishing and trade sector only, as their contribution, and part of the journey, towards the ultimate goal of recovery and sustainability.

This standard is therefore positioned to be a **best practice code of conduct for a responsible eel sector,** as part of the sector's contribution to providing the adequate protection to help reverse the decline of the eel, on the journey towards sustainability and recovery. In this phase, it is important to apply an exploitation level that allows the stock to recover. To this end, the European Commission received advice from ICES (in 2002), which recommended to aim for a spawning stock of 30% of the notional pristine level (i.e. 30% of high recruitment and no anthropogenic mortality). For precautionary reasons (due to the many uncertainties around eel) a more vigilant level of 50% was recommended. The EU Council subsequently decided to aim for 40%, in between the advised 30% and the more vigilant 50%.

For the stock to recover to this 40% level, it is necessary to reduce anthropogenic mortalities (to a maximum of 60% mortality, i.e. a survival of 40%, or better). The Eel Regulation has set no time-limit for this recovery (i.e. getting to 40% survival will do). SEG considers this to be a weakness in the Eel Regulation, and advocates to reduce mortalities to the required limit, by 2030.
For our position on eel protection and recovery see: https://www.sustainableeelgroup.org/wp-content/uploads/2021/11/SEG-position-on-protection-and-recovery-Fall-2021.pdf

The SEG standard is designed within the legally binding framework, and we therefore align our aims with the adopted management target of an ultimate recovery to 40%. Although we advocate to fulfil the required reduction in anthropogenic mortalities by 2030, that time-limit is not part of our standard, because setting this additional requirement would disturb the level playing field between the fisheries and other human impacts. As described in 5.2 above, fishing mortality is one of many impacts of anthropogenic impacts on the eel population. Fishing effort and mortality for glass, yellow and silver eels has reduced by approx. 50% since the introduction of the Eel Regulation (Poseidon report, 2019) [1].

### THE JOURNEY TO SUSTAINABILITY AND FULL RECOVERY FOR THE EEL


1) https://www.fishsec.org/app/uploads/2021/05/2019-External-Evaluation-of-the-EU-eel-regulation-EC-1100-2007.pdf

## 5.4 Responsibility – minimising the negative impacts on eel protection

We use the following to give some examples of how some of the criteria in the standard minimise negative impact towards meeting the level of eel protection required by the eel regulation.

### 5.4.1 Reducing illegal fishing and trafficking

- The SEG standard discourages illegal fishing and trafficking by excluding those who have been prosecuted from certification (as courts often don't ban fishing or trade at sentencing).

### 5.4.2 Traceability

- Certification is only achieved where audits of the operations shows good records of traceability and proper use of quotas (operators don't normally have to demonstrate this outside of a certification system).

### 5.4.3 Fishing handling survival

- The SEG standard sets limits for fish handling mortality at 4% and requires fishers to handle their catches more carefully to reduce mortality.
- A 2021 study (Simon et al 2021)[1] has shown that since the introduction of the SEG standard in France, handling mortality has reduced from as much as 42% in 2007 to less than 7.4% on average in 2020 across all fishers (certified and non certified). It was even lower in SEG certified fishers (mean 2.1% compared to 17.4%). This means that to catch an annual quota of 60 tonnes of viable glass eels, now 65 tonnes needs to be caught, whilst before it was 103 tonnes – that is a saving, or reduced negative impact, of 38 tonnes, or 114 million glass eels per year.

### 5.4.4 Restocking

- Restocking of young eels from areas of high to low abundance is a an option in the Eel Regulation for members states to deploy in their eel management plans for recovery of the stock. However, its effectiveness in creating more successful spawners is unproven and its use is controversial. Restocking, and SEG's position, is described in some more detail in section 5.5 below.

### 5.4.5 Contribution to Eel Conservation Projects

- Certified organisations are required to make financial or in-kind contributions to eel conservation projects or Eel Stewardship Funds[2] (ESFs) to progress projects that improve habitats and migration pathways for eels, as well as research, restocking and other programmes to benefit the eel.

## 5.5 Restocking

- Whilst restocking (the transport of young eels from areas of highest abundance to supplement lower populations elsewhere) is neither a cure-all, nor a wolf in sheep's clothing, SEG advocates the pragmatic use of restocking in accordance with the conditions set by the Precautionary Approach (i.e. use it as an addition, not as a replacement for protection).
- For the source area (where the glass eel is fished), a (national) Eel Management Plan applies, aiming to reduce anthropogenic mortalities to a level that enables recovery. That overall mortality includes fishing, as well as non-fishing human impacts (barriers, habitat loss, pollution and more).
- For the receiving area (where the glass eel is released), restocking may give a major boost to the local stock, and potentially contribute to the spawner production. The increased local stock contributes to the local biodiversity, plays its part in the food chain, and may contribute to the local fishery (provided that that fishery itself is responsible and properly managed). Without restocking, many natural habitats would currently be completely devoid of eels.
- Though the positive contribution of restocking to the spawning process is not proven, we consider it of utmost importance to maintain the claim on those areas as being eel habitat, even though we advocate more permanent solutions (eel passes, habitat improvement, better protection from entrainment etc.) in the long run. In this case, we consider restocking to be an important tool for maintaining the local stock, with a potential but uncertain contribution to the overall stock recovery. Our position paper on restocking is published at: https://www.sustainableeelgroup.org/wp-content/uploads/2020/06/SEG-position-on-restocking-June-2020.pdf

1) https://onlinelibrary.wiley.com/doi/full/10.1111/jai.14292
2) https://www.esf.international



For the purposes of this standard, we make the following points:

- We recognise that the net benefit to the eel stock, in terms of successful silver eel spawners is uncertain.
- Whilst restocking is an accepted measure in the Eel Regulation, and this standard seeks to support the regulation, it is assumed to be an acceptable technique.
- The Eel Management Plans of several EU members states are highly dependent on restocking, for example the Netherlands, Germany, Denmark, Sweden and France. Each of those countries report that those are successful and that resident eel populations have increased since the Eel Regulation was introduced (ICES 2022)[1].
- Where restocking is to take place:
  - It should be done according to the guidelines for the implementation of the Precautionary Approach[2].
  - It should be regarded as a short-term measure, until the easement of migration barriers demonstrates that natural recruitment is successful.
  - Glass eels should be taken from only those rivers where the local scientific or fisheries authority has evidence that there is a likely abundance of glass eels and that well regulated fishing is acceptable.
  - Those glass eels should be caught according to the quota or the regulations specified by the fisheries authority.
  - They must be caught, handled and transported carefully, according to best practice, to maximise their survival and vitality.
  - Those glass eels earmarked for restocking must be used for that purpose (this is a legal obligation).
  - Locations for restocking should be assessed as high quality, productive eel habitat, with minimal or screened pumps and hydropower, and with good connectivity for migration of silver eels to the sea.
  - The Eel Regulation target of 60% of glass eels caught to be for stocking should be observed.
  - Governments should support the markets, to assist the achievement of that 60% target.
  - This standard sets criteria for conducting restocking responsibly, according to best practice, to maximise the positive effects of restocking, and to minimise the negative effects of fishing handling, transport and holding mortality.

## 5.6 What the standard means – claims and labelling

### 5.6.1 Claims

The basic meaning of activities that pass this standard is:

**'Responsibly sourced'**

It means that those involved with the supply of eel, through the supply chain from the fishery, have complied with this standard, which is a *Best Practice Code of Good Conduct for a Responsible Eel Sector.*

Further, it refers to *'Eel that is traceable as caught from a responsible fishery, is well managed and has been caught, handled and traded using the current best and most responsible practices'.*

### 5.6.2 Labelling

To coincide with the publication of this new SEG standard, a new logo has been developed to denote and label supplies of assured SEG certified eel, each business to business and business to consumer:

SEG CERTIFIED eel.group

### 5.6.3

A full description is available in 205 SEG Standard Claims and Labelling Guide[3].

## 5.7 Achieving 'responsibility'

Organisations seeking certification will have their operations assessed by an independent and qualified Conformity Assessment Body (CAB). Those that meet the criteria for Responsibility will be certified 'Responsible', as meeting the SEG standard. The procedures and criteria for this are described in full in our 202 Assurance System[4].

1) https://ices-library.figshare.com/articles/report/Joint_EIFAAC_ICES_GFCM_Working_Group_on_Eels_WGEEL_/20418840?file=38087022
2) https://www.fao.org/in-action/globefish/publications/details-publication/en/c/338508
3) https://www.sustainableeelgroup.org/wp-content/uploads/2024/01/205-SEG-Standard-Claims-and-Labelling-procedure-V2.2.pdf
4) https://www.sustainableeelgroup.org/wp-content/uploads/2023/12/202-SEG-Assurance-System-V3.1.pdf

## 6. Other standards and ISEAL

In developing this standard, we have referred to other respected fisheries standards, for example the Marine Stewardship Council (MSC)[1], the Aquaculture Stewardship Council (ASC)[2] and the Marin Trust[3] and adopted good practice or translocated criteria from them. Where appropriate we aim to be compatible with existing standards rather than develop new ones, to reduce the burden on those seeking certification. For example, if a business meets the MSC's Chain of Custody criteria, this will meet the SEG standard's Traceability component.

We are also in contact with the International Hydropower Association regarding their Hydropower Sustainability Standard[4], and the Alliance for Water Stewardship Standard[5] to influence improvements to those standards to create better protection for eels.

May 2025, the Sustainable Eel Group is proud to have become ISEAL Code Compliant, committed to improving our system by using the ISEAL Code[6] as our framework for improvement.
ISEAL Code Compliant Members have had their system independently evaluated against ISEAL's Codes of Good Practice - a globally-recognised framework for effective, credible sustainability systems.

## 7. Standard development and revision process

The development and review of the standard is governed by the procedure published on our website at: http://www.sustainableeelgroup.org/standard-development/.

## 8. Continuous improvement

The standard itself is open to continuous improvement. This is the 7th substantive version since it was first introduced in November 2010. It has been improved each time to take account of latest best practice, available scientific knowledge, changes in legislation and comments from stakeholders. Otherwise, the standard is substantively reviewed at a minimum of every five years. The next substantive revision is due in 2028, and there may be minor improvements in between.
In addition, the standard is designed to require those certified to demonstrate improvements in their practices between successive assessments.
Together, these aim to continuously raise the standards applied in the eel sector to minimise negative impacts and increase protection and benefit to the eel.

1) https://www.msc.org/standards-and-certification/fisheries-standard
2) https://asc-aqua.org
3) https://www.marin-trust.com
4) https://www.hydropower.org/sustainability-standard
5) https://a4ws.org/the-aws-standard-2-0
6) https://isealalliance.org/what-we-do/credible-practice

# 9. How the standard works

## 9.1 Structure

The standard is structured as follows:

| HEADING | DESCRIPTION |
|---|---|
| **Component** | The broad topics of the standard; the different parts of the eel sector |
| **Issues** | The challenges in each component that the standard aims to improve or address |
| **Notes** | Guidance, explanation, clarification or definitions on how to interpret and use the indicators |
| **Benefits** | The contributions or benefit that this part of the standard is designed to make |
| **Rationale** | The reasoning behind the impact /benefit – how that benefit will work |
| **Criteria** | The tests against which the organisation will be assessed |
| **Targets & Measures** | These are performance or 'impact' measures for each component – to help monitor the effect of the standard in its contribution to eel protection |
| **Guidance** | Additional guidance to interpret the criterion and indicators |
| **Indicators** | These are measures that complement the criteria to help indicate if, and to what level, the criteria are being met |
| **Exceptions** | Description of when criteria might not apply |

## 9.2 Components

The eel sector is composed of many parts, starting with fishing, through transport, holding, trading and farming to restocking or processing, wholesale and retail supply to the consumer. This standard is designed for each part of the supply chain to show that it is achieving best practice, is acting responsibly and playing its part to minimise negative impacts for the eel.

The standard is divided into the following components:

Component 1: Core requirements:
- Commitment to legality
- Contribution to eel conservation projects
- Trading in responsibly sourced eel
- Traceability
- Mitigating reputational risk

Component 2: Glass eel fishing
Component 3: Yellow and silver eel fishing
Component 4: Eel buying and trading
Component 5: Eel farming
Component 6: Restocking
Component 7: Processing, wholesale and retail supplies

Component 1, 'Core Requirements', must firstly be met by any organisation that wishes to be assessed against any of the other components. This has no exceptions and is mandatory.
After meeting Component 1 an organisation must then achieve the criteria under the other components which apply to them. *For example, a company that both buys and sells glass eels and cultures them, would need to pass both Component 4 – Eel buying & trading and Component 5 – Eel farming.*



## 9.3 The organisation being certified – Ultimate Beneficial Owner

The organisation seeking certification shall be considered according to its Ultimate Beneficial Owner (UBO).
The organisation or business seeking SEG certification must be audited in full – it is not sufficient to have selected parts of the organisation certified. This is to ensure transparency and traceability and to show that the whole organisation is committed to it – not just selected parts.
Similarly, an Ultimate beneficial Owner (UBO), or an affiliated or subsidiary organisation, cannot be certified for one company when another under their ownership has been prosecuted or is under investigation for illegal activity related to eel fishing or trade.
An 'organisation' in this context is a company or group of companies that have a common ownership, leadership, management or control by a person, company or organisation. The UBO may also bear responsibility or a group of companies.
Whilst a whole organisation beneath a UBO must be audited and certified, if/when any entity within it were to fail a subsequent audit or inspection, the Corrective Action or Suspension or Withdrawal of the certificate shall only apply to those entities that have not achieved the standard. Where there is a major breach / legal investigation / prosecution, it applies to the whole organisation, according to the usual procedures in our Assurance System[1].

## 9.4 Fisheries – group certification

Where a fishery is assessed for certification, the fishers there are considered for 'group certification'. In this situation, because it is impractical and prohibitively expensive to audit every fisher in the fishery:
- An audit sampling methodology is applied, according to procedures in our Assurance system and
- All fishers are required to sign an agreement to attest that they will comply with the terms of certification, agreeing that if they don't, they could be ejected from the fishery and/or jeopardise the certification of the whole fishery.
- See also separate 211 Group Certification procedure[2].

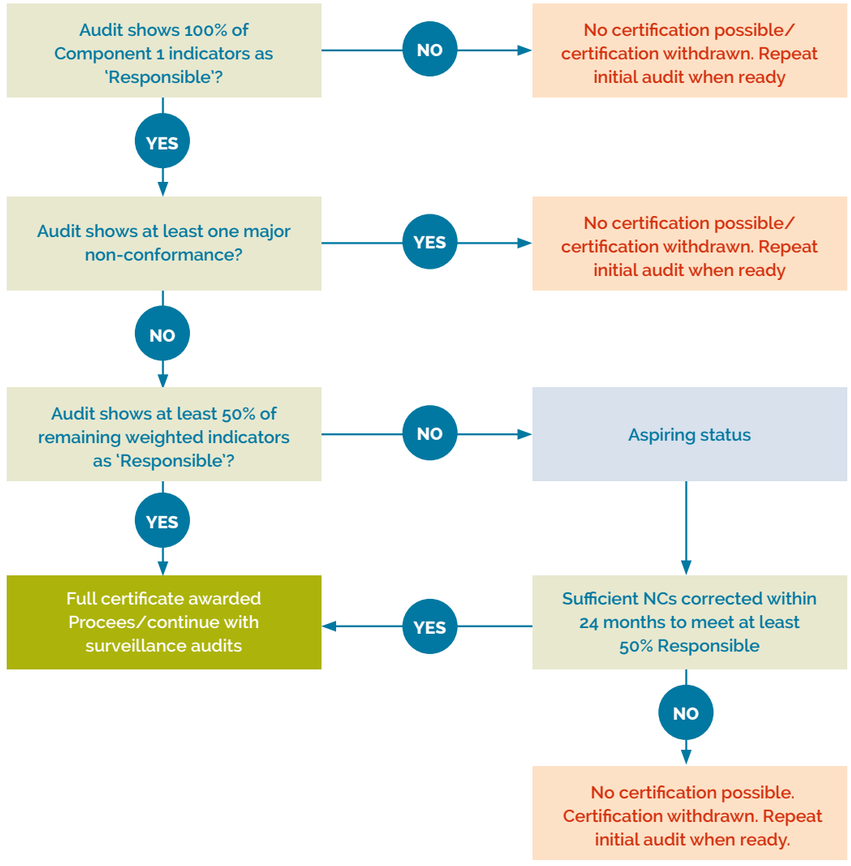
## 9.5 Methodology

The assessment is to apply to (1) the organisation assessed and (2) to a traceable certified source of eel. Certification will only be awarded to those who achieve the criteria and have a traceable supply of SEG certified eel (except where being certified for the first time and the supply could not be certified prior).
- Assessment of clients to the SEG standard is undertaken by a third party, independent 'Conformity Assessment Body (CAB)', under contract agreement with and oversight by the Sustainable Eel Group.
- Applicants are first provided with a self-assessment tool, to help them identify if they are ready for a full independent audit. In completing it, they become a 'SEG Participant'. It also ensures that they have read and understand the terms, details and process for SEG certification. When they are satisfied that they are ready they can arrange an independent audit.
- Each component consists of a series of criteria for which there are two scoring indicators: 'Responsible' and 'Aspiring'. 'Aspiring indicators describe the boundaries of a 'minor non-conformance'. Performance below Aspiring is a 'major non-conformance'.
- Applicants must achieve 100% Responsible indicators of Component 1 and at least 50% of other components at the 'Responsible' level, to achieve certification.
- Applicants that don't meet this level but achieve all criteria at or above the Aspiring level shall be categorised as 'Aspiring'; i.e., they have demonstrated good practice and are improving towards meeting the full codes of good practice of the SEG standard. Applicants categorised as Aspiring shall have up to 24 months to achieve the fully certified level.
- In the event of any major non-compliance, those non-compliances must be corrected before any other categorisation (certified or aspiring) can be registered.
- The diagram on the nexr page summarises the process.

1) https://www.sustainableeelgroup.org/the-seg-standard-system
2) https://www.sustainableeelgroup.org/wp-content/uploads/2023/12/211-Group-Certification-V2.3.pdf

Decision flowchart for initial and surveillance audits

NB. 1. Self Assessment first completed by client
2. Auditor completes full assessment.
3. NC = non-compliance




- Some criteria are weighted, to take account of more important aspects of the standard.
- Assessments against the standard are carried out by a qualified auditor working for the CAB who must follow the requirements set out in the methodology. Awards are made by the CAB under agreement and an assurance process with SEG.
- Certificates are valid for four years, but those are dependent on a surveillance audit which is applied every 1,2 or 4 years, dependent on risk, to monitor the ongoing performance of certified organisations.
- Any certification under the standard may be suspended or withdrawn from the organisation concerned if the requirements of the standard are breached.
- Assessment reports and decisions made are published on the SEG website to be available to external stakeholders for transparency and scrutiny.
- These procedures are described in more detail in the document 202 SEG Standard Assurance system which is published with all other SEG Standard System documents on the SEG website at: www.sustainableeelgroup.org/the-seg-standard-system.



## 9.6 Transition to the new standard

The revised standard, Version 7.0, shall be applicable from 20 November 2023. However, it is not practical to expect existing clients to be immediately compliant with all new criteria. The following transition arrangements shall therefore apply:

### 9.6.1 Updated criteria

Some new or updated criteria may take time for clients to adapt to. In these circumstances, indicated in the criteria below, a transition period of 12 months will apply. The only criterion this applies to is 1.2: Contribution to Eel Conservation projects.

### 9.6.2 Existing certificate holders

Existing certificate holders shall be re-audited to the new standard according to their current audit schedule.

### 9.6.3 New applicants

When new clients apply for certification, the new standard shall apply.

## 10. The Standard

Each component of the standard is described in more detail in this section. Guidance notes are provided for the use of clients and auditors where supplementary explanation or clarification may be required.

### COMPONENT 1 – CORE REQUIREMENTS

| CRITERION 1.1: COMMITMENT TO LEGALITY | |
|---|---|
| **Issues** | Illegal trade (trafficking) has increased in recent years. Although export out of the EU has been banned, demand from Asia has encouraged an illegal market (trafficking) equal in size to 50 – 150% of the reported legal glass eel catch in recent years (see reference [1]).<br>SEG is clear that the road map for recovery of the European eel population, as set out in the Eel Regulation, cannot be followed unless commercial activity is carried out in full compliance with the law and in full transparency. |
| **Notes** | The requirements in this component of the standard must be met by any organisation wishing to be certified against any other part of this standard, regardless of the specific nature of its activity.<br>The assessor / CAB shall seek verification from local enforcement agencies, and intelligence from enforcement authorities and SEG whether the client has any known convictions or current legal investigations for eel fishing or trade.<br>Several authorities monitor the illegal trade so we are able to get an estimate of the extent of trafficking. We publish reports on the SEG website [2]. |
| **Benefits** | • Discourages and reduces illegal practices and trading<br>• Increased commitment to recovery of the European eel |
| **Rationale** | By encouraging a responsible market via the SEG standard, illegal practices will be discouraged and phased out. |
| **Targets & Measures** | • The illegal trade (measured as the unaccountable reported catch in Europe) reduces by 10% per year (baseline: 100 tonnes in 2016/17).<br>• By 2030 the level of illegal trade reduces by 75% |
| **Guidance** | • Separate 103a SEG Standard Component Guidance [3] is provided for the definitions of major and minor offences for eel fishing and trading.<br><br>**1 Jan 2021 line in the sand rule:**<br>• The SEG standard has played a key role in supporting the reinvention of the commercial sector and this has matured to the point where a line in the sand can be drawn on full traceability and illegal trade. To align with the rule for no convictions for three years in Criterion 1.1, SEG also creates a matching statement for inaccuracy and illegality prior to 1 January 2021. Investigations into irregularities that occurred prior to 1 January 2021 will be exempt from consideration in the SEG certification process. |

1) https://www.sustainableeelgroup.org/illegal-trafficking
2) https://www.sustainableeelgroup.org/trafficking-updates
3) https://www.sustainableeelgroup.org/download



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| **Responsible indicators** | • The organisation has not been convicted for any major* eel fishing or trading offences or three minor offences in the past three years (see definitions in separate guidance)<br>• The organisation (except fisheries) provides an 'extrait de casier judiciaire' or equivalent from the country's authority, or other declaration that indicates a legal history that matches these indicators. |
| **Non-conformance** | • The organisation is under legal investigation by enforcement authorities. In this circumstance, whilst not (yet) prosecuted, the organisation shall have certification suspended pending the outcome of that investigation, depending on the seriousness* (see guidance) of the alleged offence. That shall apply whether the client is already certified or is an applicant.<br>• The organisation (except fisheries) is unable to provide an 'extrait de casier judiciaire' or equivalent from the country's authority to indicate a legal history that matches these indicators.<br>• The organisation provides a false declaration |
| **Exceptions** | • Fisheries are not usually individual legal entities so will be unable to produce a "extrait de casier judiciaire". However, individual fishers are liable to be excluded from a fishery if convicted and excluded from certification if convicted or in breach of the terms of the SEG Standard.<br>• Individual fishers may also be excluded from certification where they do not conform to the terms of the local fishery's Group Certification procedure. |

| CRITERION 1.2: CONTRIBUTION TO EEL CONSERVATION PROJECTS | |
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| **Issues** | The destruction of eel habitat and the implementation of thousands of weirs, sluices, barriers, abstractions, pumps and hydropower schemes have progressively reduced the eel's range in fresh waters since the start of the industrial revolution. To undo that will cost € Billions, take decades and require enormous political will.<br>The costs are being borne to some degree via legislation and Eel Management Plans to require companies and countries to undo the damage caused by their actions.<br>Eel conservation projects are those such as habitat restoration, eel passes, removal of barriers and screening of pumps to mitigate for the degradation caused, restocking and research.<br>Participants are required to make in-kind or financial contributions to eel conservation projects as a contribution to aid the eel's recovery, particularly if or where it is challenging to demonstrate a contribution elsewhere (e.g. eel farms for consumption and wholesalers / retailers). |
| **Notes** | Eel Stewardship Funds [1] have been set up and are convenient mechanisms for companies, organisations or individuals to make financial contributions to eel conservation projects. The sector is aiming to increase the number of ESFs across Europe. SEG supports that and recognises in this standard where participants are a member of the appropriate Eel Stewardship Association. |
| **Benefits** | Increased investment on eel and environmental improvement projects to increase eel survival and silver eel escapement. |
| **Rationale** | By increasing financial or in-kind contributions, more work targeted at eel conservation, protection and improvement can be undertaken to speed up the journey to the eel's recovery. |

1) http://www.esf.international

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| **Targets & Measures** | • The number of businesses and the total financial contributions will be measured. Existing ESFs raise approximately €700,000 per year. An aspirational target is to double that in 10 years, by 2033.<br>• The outcomes of those contributions will be monitored and measured so that a tangible impact on eel populations can be identified and best value from contributions achieved. |
| **Guidance** | • See separate 103a SEG Standard Component Guidance [1] to define what type and amount of contributions can be considered as eligible. |
| **Responsible indicators** | • The organisation is a member of an Eel Stewardship Association and makes the required financial contribution to an Eel Stewardship Fund or<br>• The entity has provided in-kind* or financial contributions towards eel conservation projects |
| **Aspiring indicators** | • The organisation is in the process of becoming a member of an Eel Stewardship Association within the next 6 months<br>• The entity has provided 50-99% of the required in-kind or financial contributions towards eel conservation projects or has credible plans to achieve the 100% in the next 12 months |
| **Transition** | Clients may have until 1 January 2025 to meet this criterion |

| **CRITERION 1.3: THE ORGANISATION TRADES IN SEG CERTIFIED RESPONSIBLY SOURCED EEL** | |
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| **Issues** | In previous versions of the SEG standard: (1) initially, organisations needed to show that they had the good practices to have the ability to trade certified eel, then (2) they had to show that they were actually trading in certified eel, with >50% achieving a 'responsible score. These changing steps have been to enable the sector to transition between there being 0% certified eels on the market, to being able to trade in 100% certified eels. This new standard, V7.0, requires those trading via the glass eel supply chain, to be handling at least 95% SEG certified.<br>Organisations might have residual stock of non-certified eel which can be sold as part of their transition, but obviously they must not labelled certified.<br>Those trading in wild yellow eels must take care to keep wild and farmed eel supplies separate to ensure they are not mis-labelled for the customer. |
| **Benefits** | • Improved clarity over the meaning of the standard<br>• Increased take-up of the standard<br>• Increased market share for certified eel |
| **Rationale** | With the focus on supplies rather than just processes, we anticipate greater demand for certified sources, bringing an increasing proportion of businesses seeking the responsible route on the journey to sustainability. |
| **Targets & Measures** | • The number of organisations achieving the standard increases by 25% per year over the next 10 years, from 17 in 2018, to 90 in 2028<br>• The proportion (by percentage weight) of the market that is from certified responsible sources increases by 15% per year, from 5% in 2018 to 90% in 2028 |
| **Responsible indicators** | The organisation trades in 95 - 100% of SEG certified responsibly sourced eel from the glass eel supply chain and has the documentation to demonstrate that. |

1) https://www.sustainableeelgroup.org/wp-content/uploads/2023/11/103a-SEG-Standard-V7.0-Component-Guidance-V1.0.pdf

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| **Aspiring indicators** | The organisation has up to 5% of its stock from uncertified glass eel sources but can demonstrate that those will have left the organisation within 12 months. |
| **Exceptions** | 1. This does not apply the first time a fishery is assessed. As they are the source of the eels, they would be unable to demonstrate that they have already been trading in SEG certified eels.<br>2. It also does not currently apply to wild sourced yellow eels in smokeries – i.e. wild sourced yellow eels are not to be considered in the 100% requirement. Currently, there have been no certified wild yellow eel fisheries. When there starts to be a supply of SEG certified wild yellow eel, a transition towards 100% of that source will be developed and applied. |

| **CRITERION 1.4: TRACEABILITY - RECORD KEEPING AND DOCUMENTATION** | |
|---|---|
| **Issues** | Good record keeping that can be audited is essential to be able to provide the evidence that the claims an organisation makes for its products are genuine. Customers seek the assurance of the standard to show that the product they are buying is what it is claimed to be, i.e. from certified responsible sources. However, no audit system is criminal-proof and it is open to fraud. Hence, spot-checks, vigilance and reporting by suppliers and customers is required to maintain the credibility and security of the standard and those certified. |
| **Notes** | **If the client has demonstrated Traceability / Chain of Custody via another standard, that evidence can be used here.**<br><br>***Incoming Product***<br>The client will need to have full traceability and provide access to the certificates of all suppliers with whom they deal, to prove to the auditor that the sources are certified. These will need to be backed up by incoming invoices from these suppliers showing the purchase of product.<br><br>***Separation and Segregation***<br>Separation can be achieved through physical or temporal separation. However it is done, it must ensure that mixing will not occur. Certified products must not contain any non-certified eel.<br><br>***Outgoing Product***<br>It is a requirement that all products that wish to be labelled as meeting the standard also carry the relevant documentation. Organisations will need to use batch-coding (see in 205 SEG Claims and Labelling guide [1]) to identify products as certified on labels or invoices. Invoices will also need to have the quantity of certified product. This code needs to link clearly to the certified product (so if non-certified product is also included on the invoice, it is clear that this product is not included).<br>It is not required that end-consumers are provided with an invoice meeting these requirements but they should receive documentation (receipt and product packaging) showing that the product is certified. Records will still need to be kept regarding the quantities sold to end consumers. |

1) https://www.sustainableeelgroup.org/wp-content/uploads/2024/01/205-SEG-Standard-Claims-and-Labelling-procedure-V2.2.pdf



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| Notes | ***Record Keeping and Documentation***<br>The key to traceability is good record-keeping. Organisations will need to be able to provide records that allow for the tracking of product throughout their ownership. They will also be required to show records that allow an auditor to view the quantity (in weight) of product that has been bought, lost and sold. The auditor will want to be able to ensure that the amount of certified product leaving the chain of custody is the same or less than the corresponding amount bought.<br>Note that glass eels shrink during storage (they aren't fed), so weight change is an important element of rectifying 'eels in' with 'eels out' for a batch. However, for this case there is a trade-off between frequent record-keeping and mortality induced by handling so that good husbandry dictates that handling is minimised – this means weighing only when necessary.<br><br>***Tele-declaration systems***<br>Information technology has been implemented in parts of France for fishermen to record their catches on a tele-declaration system, and for buyers to record what they have bought and sold. This provides a more efficient method for fishermen, buyers and fisheries authorities to record catches. It also provides a mechanism to improve traceability, by providing a more robust and real-time account of who has handled what quantity of glass eels and when. Responsible operators will use these systems. |
| **Benefits** | • Assurance to customers that they are purchasing genuine certified product<br>• Credibility of the standard<br>• Increased market share of certified responsibly sourced eel<br>• Increasing traceability through the supply chain leading to a reduction in illegal trade |
| **Rationale** | Traceability, auditable good record keeping, trust and honesty are core to the standard working. A minority are likely to abuse the system, but, through audits and reporting, they will be excluded. |
| **Targets & Measures** | • Auditors report a high confidence (90%+) in the quality of records of a high proportion (90%+) of those assessed<br>• All those handling certified eel are using batch-coding to label the product and do so correctly<br>• Reports of transgressions are handled promptly and fairly<br>• Increasing proportion of fishermen and buyers use a tele-declaration system |
| **Responsible indicators** | • The organisation operates a system that allows the tracking and tracing of all batches of eels from purchase to sale and including any steps in between. This includes the ability to track each batch delivered to a buyer to be connected back to a water, a time period) and specific fisherman/vessel,<br>• If a fisher or buyer, a tele-declaration system is used to report catches and trade,<br>• Batches of traded eels have the correct legal documentation for the country, e.g. veterinary certificate, Traces, etc.<br>• If sourced from France, it is clear whether the eels are from the consumption or restocking market and they are being sold for the correct purpose,<br>• Certified and non-certified batches of eels of any life stage are kept in separate and clearly labelled tanks,<br>• Such segregation is maintained from point of collection through holding to sale and onward transport;<br>• On eel farms, Glass eels purchased for eel farming for consumption have only come from the glass eel consumption quota, |

1) https://www.sustainableeelgroup.org/the-seg-standard-system

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| Responsible indicators | • The organisation correctly uses batch-coding for labelling certified product, which can be on the packaging for the product, or included in the documentation (e.g. invoice) with the assignment,<br>• All product to be sold as certified by an organisation is accompanied by an invoice which meets the following criteria:<br>- Includes an appropriate batch code,<br>- Includes a record of the quantity (no. & weight) of product and where it was sold,<br>• The organisation operates a system that also allows for the completion of a batch reconciliation of eel product by weight over a given period,<br>• The organisation ensures that any products wishing to make a claim as certified do not contain any non-certified eel-based ingredients,<br>• The organisation maintains records for a minimum of five years.<br>OR:<br>• The client holds the MSC or ASC Chain of Custody standard |
| **Aspiring indicators** | • If a fisher or buyer, a tele-declaration system is not used to report catches and trade,<br>• Records are maintained for a minimum of three years |
| **Exceptions** | Clients who already hold a recognised Chain of Custody standard (e.g. MSC, ASC), shall be deemed to meet this criterion. |

| **CRITERION 1.5: THE RISKS OF REPUTATIONAL DAMAGE TO SEG ARE IDENTIFIED AND PREVENTED OR MITIGATED** | |
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| **Issues** | Fishing and trading in the European eel carry many risks, principally (1) because the trade in eels is very valuable, particularly on the illegal market and there has been a high level of illegal trafficking since the CITES listing in 2009 and (2) trade in a species that is classified as critically endangered needs careful consideration and control.<br>Clients and operators who operate outside of the law and also the SEG standard, or who do not apply adequate Corporate Sustainability Due Diligence, present the possibility of bringing significant reputational damage to SEG.<br>SEG applies its own procedures to manage risk, some of which are transposed to the SEG standard to ensure that SEG Members and clients apply full due diligence actions to minimise reputational risk. |
| **Guidance** | The SEG Transition arrangements to Version 7 of the Standard do not apply when considering the risks to SEG reputation.<br>Refer to the separate 103a SEG Standard Component Guidance [1]. |
| **Weighting: 1** | |
| **Responsible indicators** | • The organisation meets none of the high risk indicators in the Reputation and Trade Risk Matrix<br>• The organisation has demonstrated adequate Corporate Sustainability Due Diligence |
| **Aspiring indicators** | • The organisation meets at least one of the risk indicators in the Risk Matrix.<br>• The Corporate Sustainability Due Diligence checks are not considered as adequate.<br>• In either of these situations, the audit will be referred to the SEG Board.<br><br>Where all risks are deemed as prevented or adequately mitigated, the organisation will then meet the Responsible indicator. |

1) https://www.sustainableeelgroup.org/the-seg-standard-system



| **CRITERION 1.6: ALL ORGANISATIONS UNDER THE ULTIMATE BENEFICIAL OWNER ARE SEG CERTIFIED** | |
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| **Issues** | There is no universally accepted definition for 'Ultimate Beneficial Owner' (UBO). SEG has taken the following as a reasonable and proportionate guide. |
| **Guidance** | Identifying the Ultimate Beneficial Owner involves determining the individual or entity that ultimately owns or controls a company, even if their ownership or control is indirect or through intermediaries. This process is crucial to ensure that SEG registered clients are legal and credible and not affiliated with illicit, untraceable or uncertified eel trade.<br>Identifying UBOs is vital to ensure transparency and protect the SEG system's integrity. SEG has taken inspiration from anti-money laundering, know-your-client and anti-fraud regulations across the EU when updating its certification mechanism and guidelines, and concluded that a robust certification process would benefit from identifying the UBOs of the applicant.<br><br>The steps involved in identifying a UBO typically include:<br>1. Collecting Information: Gathering data about the company's legal structure and ownership.<br>2. Analysing Ownership Structure: Examining the layers of ownership, such as shareholders, partners, and entities, to trace back to the ultimate owner.<br>3. Determining Control: Identifying who has significant control over the company, such as voting rights, financial interests, or the ability to influence decisions.<br>4. Verification: Confirming the identity of the UBO through documentation, such as identification cards, passports, and other legal documents.<br>5. Compliance and Reporting: Ensuring compliance with regulations that often require companies to report the identity of their UBOs to regulatory authorities.<br>Refer to 103a SEG Standard Guidance[1] for further guidance on how to assess the UBO.<br><br>Where an organisation seeks to be SEG certified, all relevant (eel trade) related businesses (organisations) under common ownership or control i.e. with a similar UBO must also be SEG certified, or there must be clear and convincing separation between them (greater than the 50% balance of probability), according to the threshold limit of ownership in the law of that country.<br>Certificate(s) cannot be awarded until all organisations under the UBO have achieved the Standard and are ready for certification. |
| **Weighting: 1** | |
| **Responsible indicators** | • The UBO is clearly identified, is legitimate and legally operated<br>• All European eel related organisations owned or controlled by the UBO are clearly identified, legitimate and legally operated<br>• The UBO and any European eel related organisations owned or controlled by it are SEG certified. |

1) https://www.sustainableeelgroup.org/the-seg-standard-system

COMPONENT 2 - GLASS EEL FISHING

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| **Issues** | ***Size of market***<br>Glass eel fishing forms by far the greatest portion of the overall catch of eels (by number). Catches are about 60 tonnes (180 million glass eels) per year in recent years. Commercial fishing is from a relatively small number of estuaries (25 - 30) on the west coasts of Morocco, Portugal, Spain, France and the UK where there are local concentrations of glass eels. There is little or no glass eel fishing in the hundreds of other estuaries around Europe. This standard is designed to describe best practice in those that are fished. |
| **Notes** | ***Responsible fisheries***<br>'Sustainable' fisheries cannot yet be defined. Responsible fisheries are where fishers are operating in a place and in such a way according to the relevant Eel Management Plan, in support of the Eel Regulation.<br><br>***Traceability – sale to certified buyers***<br>There is an obvious temptation to sell to buyers who will offer the best price. That price is determined by the market and the illegal market often offers a higher price. To aid traceability and increase assurance of a traceable supply chain, it is preferable (but not mandatory) that certified fisheries only sell to certified buyers.<br>Other mechanisms such as tele-declaration systems are also being used to improve traceability and therefore discourage and also measure the extent of the illegal markets down to the fishery level.<br>Fisheries in France have quotas for each consumption and restocking. Fisheries must demonstrate that they are not exceeding those quotas and that eels are being purchase for the correct reasons.<br><br>***Fishery data***<br>Good fishery data are important to enable effective fisheries management by local, national and European fishing authorities.<br><br>***Survival & eating glass eels***<br>It is obviously important to maximise welfare and survival for glass eels to then maximise their contribution to recovery. There will inevitably be some mortalities and those can be kept, frozen and supplied for an albeit diminishing market in eating glass eels. In some places in Europe there are local traditions based on eating glass eels, e.g. it is a Christmas tradition to eat 'Angulas' in parts of Spain. However, the reduction in glass eel catches has led to substitutes being developed for these traditions. Whilst SEG feels that direct consumption of glass eels is poor use of the stock, we do recognise that (1) it is a traditional (social & economic) activity and (2) as long as these come from the 'consumption quota', this form of consumption has no more negative impact than similar numbers going into aquaculture. Good records must be kept for inspection at audit to ensure that the mortality records are within the boundaries of this standard, and that they are not used as cover for illegal trade.<br><br>***Consumption and restocking quotas***<br>In France, the most significant glass eel fishery, comprising 80% of the European market, the authorities set a quota for catch and sale for each restocking and consumption each year. There is a legal requirement to observe those quotas (and, for example, it is unlawful to sell fish for consumption that were due for restocking) and auditors have an important role to play, through analysis or records, that quotas are being properly used. |

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| Notes | ***Unit of fishery***<br>Fisheries can be assessed at a range of size of 'units', from individual fishermen, through groups, co-operatives, to a whole estuary to the Eel Management Unit (or District) on which Eel Management Plans are based. The default unit will be the Eel Management Unit unless there are good data or information available at a smaller catchment level.<br>Smaller units, e.g. a single fisher, brings individual responsibility but greater cost (of assessment) per fisher. Larger units bring economies of scale, and the whole group of fishers must trust each other to operate according to the required standards and regulations. Contract agreements / conditions of use are provided so that individuals and collectives understand their responsibilities.<br>Where assessment for individuals is prohibitively expensive, collaboration to bring groups together is encouraged to conduct multiple single assessments. Our Assurance system describes how this 'group certification' is managed.<br><br>***Progress with Eel Management Plans***<br>In assessing progress of an eel management plan (EMP), the assessor will seek evidence from the relevant agencies to identify whether the fishery or applicant fishers have made credible progress with the majority of their management actions. For an Aspiring score, over 50% of actions must be in place or achieving good progress. For a Responsible score the minimum is 75%.<br>Note also that for countries where the Eel Regulation does not apply, a similar standard that is at least the equivalent of that set out in the Eel Regulation and is based on the implementation of an eel management plan approved by an international scientific committee.<br><br>***Eel Management District***<br>The Eel Management Districts described in Criteria 2.2 and 3.2 are the smallest level of catchment at which silver eel escapement targets have been set. Depending on the country, these may be individual rivers, groups of catchments (river basins) or, in some cases, whole countries.<br><br>***Mortality rates during fishing for glass eels***<br>Survival of glass eels is very important and is dependent on how carefully they are caught, handled and stored. Fishers must use best practice methods to maximise survival. Records of mortality must be maintained (to include if kept temporarily at locations away from the weigh-in site. The experience of auditors in recent years is that apart from checking that fishing gear is in line with best practice, other techniques such as fishing speed are less easy to measure. The most important measure is the outcome – the survival of glass eels after fishing. So, in this revised standard we have applied fewer and clearer criteria to help the fisher and the auditor to know what is required and being measured. |

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| **Notes**<br>COMPONENT 2<br>Glass eel fishing | ***Mortality rates in glass eel fishery and in storage***<br>The quality and survival of glass eels caught depends on the combination of the following parameters:<br>1. The gear used. Hand operated dip or scoop nets are the most gentle but are less efficient than boats. When using boats, scoop nets or trawls ('pibalours' in France) might be used. When these are used the quality of glass eels depends on:<br>2. The speed of the vessel<br>3. The duration of the trawl<br>4. The design and configuration of the net, including mesh size of the cod-end<br>5. The handling and storage of the fish, e.g. the use of vivier tanks<br><br>***Carmin indigo test***<br>Carmin indigo dye can be used to identify damage to glass eels. There is a protocol developed in France to use this dye to sample batches of glass eels to assess the damage after fishing and the likely mortality. This is a method to objectively assess fishing handling damage and mortality.<br><br>***Vivier tank***<br>This is a tank for holding live fish with systems to replenish water and monitor and maintain water quality standards appropriate to the fish species and life stage.<br><br>***By-catch in glass eel fisheries***<br>In order to evaluate impacts of the fishery on by-catch over a fishing season, the assessor will require information on:<br>- Species represented in the by-catch<br>- An indication of the quantity of each species caught over a given period (e.g. per tow or dip, per night)<br>- Protocols or methods for dealing with by-catch<br>- How the by-catch is handled<br>Some species are of course an acceptable by-catch, assuming fished according to regulations.<br>Infrequent but large catches of gelatinous zooplankton in glass eel nets during bloom periods may be excluded from these criteria.<br><br>***Good data***<br>Good data are defined as those that can be used for statistical analysis within accepted scientific limits.<br><br>***Quotas***<br>Given the size, range and diversity of the fisheries of the European eel, it is not possible to assign marine fisheries management terms, e.g. Total Allowable Catch or Sustainable Yield. Fisheries scientists have applied quotas to regulate fishing catches in France.. |
| **Benefits** | • Glass eels are fished from a place where impact on local and total eel populations are minimised<br>• Survival is maximised<br>• Impact on the environment / other species is minimal<br>• Good fishery data enable effective fisheries management<br>• Glass eels are sold to SEG certified buyers to meet the demand for certified fish |



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|---|---|
| **Targets & Measures** | • The amount (weight) and proportion (%) of glass eels caught from each certified and non-certified fisheries will be monitored. The proportion from certified fisheries increases from 5% to 90% between 2018 and 2028.<br>• Survival rates will be monitored and the standard raised set to seek a continuous improvement in survival. Survival rates averaged 92.6% across all (certified and uncertified) French fishers in 2020/21 (Simon et al 2021 [1]), and was measured as an average of 58% in 2007 (Briand et al 2012 [2]).<br>• Fishery authorities will develop increasing confidence in fishery data, including catch per unit of effort, to make reliable fisheries management decisions.<br>• The unaccountable & possible sale to illegal exports to be measured through mass-balance analysis of catch-declaration systems, to support the target for illegal trade in Component 1. Target: in 10 years (2018 - 2028), the level of illegal trade will have reduced by 75%. |

| **CRITERION 2.1: GLASS EEL FISHING IS FROM A RESPONSIBLE FISHERY** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | • Fishing is in an area permitted by the fisheries authority (working to its Eel Management Plan) and<br>• The catch quotas and other applicable fishing restrictions are being observed (have been in compliance over the past 4 years) |
| **Aspiring indicators** | • Fishing is in an area permitted by the fisheries authority and<br>• The catch quotas and other applicable fishing restrictions are being observed (have been in compliance over the past 2 years) |

| **CRITERION 2.2: THERE IS GOOD PROGRESS WITH THE APPLICANT'S RESPONSIBILITIES IN THE EEL MANAGEMENT PLAN FOR THE RIVER OR DISTRICT** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | There is credible progress with at least 75% of the actions relating to the fishery for the implementation of the Eel Management Plan. |
| **Aspiring indicators** | There is credible progress with at least 50% of the actions relating to the fishery for the implementation of the Eel Management Plan |

1) https://onlinelibrary.wiley.com/doi/full/10.1111/jai.14292
2) https://www.kmae-journal.org/articles/kmae/abs/2012/01/kmae100085/kmae100085.html

| CRITERION 2.3: THE FISHERY IS WELL-MANAGED | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Fishers are licensed and provide catch and effort data via a tele-declaration system.<br>• Data on catch and effort are collected and analysed regularly by the fishery authority (at least annually at the end of the season).<br>• There is a data set for at least the last 5 years that is considered by the fishery authority to be accurate, useful for statistical purposes and provides a comprehensive picture of the glass eel fishery under assessment.<br>• Enforcement is in place throughout the fishing area and there is no evidence of systematic, regular or significant non-compliance.<br>• 95%+ fisheries are in compliance with group certification procedures |
| **Aspiring indicators** | • Fishers are licensed and provide catch and effort data.<br>• Data on catch and effort are collected and analysed regularly by the fishery authority (at least annually at the end of the season).<br>• There is a data set for at least the last 3 years that is considered by the fishery authority to be accurate and provide enough information on the glass eel fishery under assessment for management and to track annual trends in glass eel arrival.<br>• There is no evidence of systematic, regular or significant non-compliance.<br>• 80 – 94.9% fishers are in compliance with group certification procedures |

| CRITERION 2.4: MORTALITY DURING FISHING IS MINIMISED | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | • Fishing is by hand-held nets and has effective nearby holding facilities OR<br>• Fishing from vessels meets the following criteria:<br>i) fishing is at slow speed (no more than 1 knot relative to water);<br>ii) haul duration is on average no longer than 20 minutes, with the maximum duration not more than 30 minutes;<br>iii) mesh size of cod end no greater than 1mm;<br>iv) rest of the net designed such that glass eels do not become trapped or abraded;<br>v) vivier tank on board and in use or glass eels kept moist in polystyrene boxes;<br>vi) fishermen maintain accurate daily records of mortality, including if kept temporarily at home, OR<br>• Fishers can demonstrate that the mortality rate of the catch over the duration of holding in the storage facility is less than 4% for each batch captured. OR<br>• The Carmin Indigo or similar test indicates that mortality averages less than 4%<br>• The receiving trader reports that mortality in the first week of storage doesn't exceed 4% |
| **Aspiring indicators** | • Fishing from vessels meets the following criteria:<br>i) fishing is at slow speed (no more than 1.5 knots relative to water);<br>ii) maximum haul duration no longer than 30 minutes;<br>iii) mesh size of cod end no greater than 1mm;<br>iv) rest of the net designed such that glass eels do not become trapped or abraded;<br>v) vivier tank on board and in use or glass eels kept moist in polystyrene boxes;<br>vi) fishermen maintain accurate daily records of mortality, including if kept temporarily at home, OR<br>• Fishers can demonstrate that the mortality rate of the catch over the duration of holding in the storage facility is between 4% and 8% for each batch captured. OR<br>• The Carmin Indigo or similar test indicates that mortality averages between 4% and 8%<br>• The receiving trader(s) report(s) that mortality in the first week of storage averages between 4% and 8% |





| CRITERION 2.5: THE FISHERY HAS NEGLIGIBLE IMPACTS ON BY-CATCH SPECIES | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The fishery has a negligible (less than 1% direct mortality) impact on by-catch<br>• By-catch is returned to the water alive as gently and rapidly as possible. |
| **Aspiring indicators** | • The fishery has low-level (less than 5 % direct mortality) impacts on by-catch<br>• By-catch is returned to the water alive as gently and rapidly as possible. |

| CRITERION 2.6: THE FISHERY HAS NEGLIGIBLE IMPACTS ON RARE OR OTHER PROTECTED SPECIES | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | The fishery has no direct interactions resulting in mortality or injuries with other species that are considered vulnerable, threatened, endangered or are protected under national or international law. |
| **Aspiring indicators** | Interactions, resulting in mortality or injury, with other species that are considered vulnerable, threatened, endangered, or are protected under national or international law, are rare and have no overall measurable impact (less than 1 % of direct mortality). |

| CRITERION 2.7: THE FISHERY HAS NEGLIGIBLE IMPACTS ON HABITATS | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | The fishing gear does not cause any damage to the benthos (it never touches the bed) |
| **Aspiring indicators** | Damage to the benthos by gear is limited or minimal (it very occasionally touches the bed: 1 – 2 times per year) |

| CRITERION 2.8: TRANSPORT | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The operator holds the relevant transport authorisations<br>• There is a documented Transport Plan in place to minimise travel time – this meets the Transport requirements for vertebrates<br>• Packing is done in a way that minimises handling, time and stress<br>• Eels are kept cool and wet with an adequate supply of oxygen |
| **Aspiring indicators** | • The operator holds the relevant transport authorisations<br>• There is a no documented Transport Plan in place<br>• Packing is done in a way that minimises handling, time and stress<br>• Eels are kept cool and wet with an adequate supply of oxygen |

| CRITERION 2.9: BIOSECURITY | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Fishers only operate in the same river or estuary, with no risk of transferring diseases or alien species between catchments OR:<br>• The fishery conducts good biosecurity measures such as the disinfection and drying of nets and equipment between each fishing in different waters. |
| **Aspiring indicators** | None |

## COMPONENT 3 - YELLOW AND SILVER EEL FISHING

| | |
|---|---|
| **Issues** | Yellow and silver eel fisheries have greatly reduced since 2009 – in part because of the reduction in eel populations making it less viable, and in part because many countries' fishery authorities closed or reduced fishing as part of their Eel Management Plans. Where this fishing continues, we encourage them to become certified.<br><br>***Eating wild yellow and silver eels***<br>Yellow and silver eels are maturing eels. Those in the wild have survived the period of greatest mortality and are adapted to life in the environment. These fish are those that have the greatest opportunity to survive to migrate to the Sargasso to spawn. This is why many Eel Management Plans have stopped or reduced yellow and silver eel fishing. Like glass eels, the standard is designed to only support fishing where the River or District is meeting the escapement target and/or other criteria.<br><br>***Certification***<br>So far, there have been no applications for SEG certification for yellow or silver eel fisheries. This is for a number of reasons, but mostly because the sector is fragmented – there is little or no co-ordination re representation of these fisheries. SEG will make greater efforts to engage these fisheries in the next five years – for the period of this version of the standard. |
| **Notes** | Many notes, e.g. Unit of Fishery, good data, are the same as for glass eel fishing, above, and for brevity, are not repeated here. |
| **Benefits** | • Impact on the environment / other species is minimal<br>• Good fishery data enable effective fisheries management |
| **Rationale** | Where yellow and silver eel fishing exists, we wish it to become and show itself to be responsible via the SEG standard |
| **Targets & Measures** | • The amount (weight) and proportion (%) of yellow and silver eels caught from each certified and non-certified fisheries will be monitored. The proportion from certified fisheries increases from 0 % to 25% over the next 10 years (2023 to 2033)<br>• Fishery authorities will develop increasing confidence in fishery data to make more reliable fisheries management decisions |

| **CRITERION 3.1: YELLOW EEL FISHING IS FROM A RESPONSIBLE FISHERY** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | • Fishing is in an area permitted by the fisheries authority (working to its Eel Management Plan) and<br>• The catch quotas and other applicable fishing restrictions are being observed (have been in compliance over the past 4 years) |
| **Aspiring indicators** | • Fishing is in an area permitted by the fisheries authority (working to its Eel Management Plan) and<br>• The catch quotas and other applicable fishing restrictions are being observed (have been in compliance over the past 2 years) |

| **CRITERION 3.2: THERE IS GOOD PROGRESS WITH THE APPLICANT'S RESPONSIBILITIES IN THE EEL MANAGEMENT PLAN FOR THE RIVER OR DISTRICT** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | There is credible progress with at least 75% of the actions relating to the fishery for the implementation of the Eel Management Plan. |
| **Aspiring indicators** | There is credible progress with at least 50% of the actions relating to the fishery for the implementation of the Eel Management Plan. |

| **CRITERION 3.3: THE FISHERY IS WELL-MANAGED** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Fishers are licensed. At least 90% provide catch and effort data<br>• Data on catch and effort are collected and analysed regularly by the fishery authority (at least annually at the end of the season)<br>• There is a data set for at least the last 5 years that is considered by the fishery authority to be accurate, useful for statistical purposes and provide a comprehensive picture of the glass eel fishery under assessment<br>• Enforcement is in place throughout the fishing area with good evidence of high levels of compliance with fishing regulations.<br>• 95%+ fisheries are in compliance with group certification procedures |
| **Aspiring indicators** | • Fishers are licensed. At least 75% provide catch and effort data<br>• Data on catch and effort are collected and analysed regularly by the fishery authority (at least every 2 years)<br>• There is a data set for at least the last 3 years that is considered by the fishery authority to be accurate and provide enough information on the glass eel fishery under assessment for management and to track annual trends in glass eel arrival<br>• There is good evidence of high levels of compliance with fishing regulations.<br>• 80 – 94.9% fishers are in compliance with group certification procedures |

| **CRITERION 3.4: THE FISHERY HAS NEGLIGIBLE IMPACTS ON BY-CATCH SPECIES** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The fishery has a negligible impact (less than 1% direct mortality)on by-catch<br>• By-catch is returned to the water alive as gently and rapidly as possible<br>• Dead by-catch is landed and recorded and utilised appropriately where possible<br>• The fisheries show initiatives to reduce the amount of dead by-catch |
| **Aspiring indicators** | • The fishery has low-level impacts (less than 5 % direct mortality) on by-By-catch is returned to the water alive as gently and rapidly as possible. |

Photo: Cor Kuyenhoven



| CRITERION 3.5: THE FISHERY HAS NEGLIGIBLE IMPACTS ON RARE OR OTHER PROTECTED SPECIES | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | The fishery has no direct interactions resulting in mortality or injury with other species that are considered vulnerable, threatened, endangered or are protected under national or international law. |
| **Aspiring indicators** | Interactions, resulting in mortality or injury, with other species that are considered vulnerable, threatened, endangered or are protected under national or international law, are rare and have no overall measurable (less than 1 % of direct mortality) impact on the population. |

| CRITERION 3.6: THE FISHERY HAS NEGLIGIBLE IMPACTS ON HABITATS | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | The fishing gear does not cause any damage to the benthos. |
| **Aspiring indicators** | Damage to the benthos by gear is limited or rare. |

| CRITERION 3.7: TRANSPORT | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • There is a documented Transport Plan in place to minimise travel time – this meets the Transport requirements for vertebrates<br>• Packing is done in a way that minimises handling, time and stress<br>• Eels are kept cool and wet with an adequate supply of oxygen<br>• The operator is trained and holds the relevant transport authorisations for its country(s) of operation |
| **Aspiring indicators** | • There is no documented Transport Plan in place<br>• Packing is done in a way that minimises handling, time and stress<br>• Eels are kept cool and wet with an adequate supply of oxygen<br>• The operator holds the relevant transport authorisations for its country(s) of operation |

| CRITERION 3.8: BIOSECURITY | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The fishery conducts good biosecurity measures such as the disinfection and drying of nets and equipment between each fishing in different waters, OR:<br>• The fishermen only operate in the same river or estuary, with no risk of transferring diseases or alien species between catchments |
| **Aspiring indicators** | None |




## COMPONENT 4 - EEL BUYING AND TRADING

| | |
|---|---|
| **Issues** | Glass eel buyers hold an integral, important but also challenging position in the supply chain. They are few, and are considered by some to 'control' the market and in some places there are monopolies, whilst in others there are sufficient to enable competition.<br>Their relationship with fishermen is crucial – mutual trust and loyalty are important – and this relationship has often influenced changes to more responsible fishing practices as buyers have become more aware of market pressures.<br>Buyers also have the challenge of winning tenders from customers in a very competitive market (where the driver has too often been cost rather than quality) and then seeking to balance that with the uncertainty of supply when the number of returning glass eels or fishing conditions might not provide the market demand.<br>On top of this there is the constant risk of the illegal trade to Asia. The higher prices are a temptation to some and this can significantly affect market demand and prices.<br>Millions of glass eels pass through a small number of buyers so issues such as welfare and influence are important for many factors around responsibility. |
| **Notes** | ***Careful handling***<br>Careful handling will involve, amongst other things, no dropping or tipping from any height, no drying out, minimal contact with sharp edges or corners, nothing in which the tail could be caught; moving the eels with water rather than nets where possible, and the procedure to be planned in advance and completed as quickly as possible.<br><br>***Design of glass eel holding facilities***<br>To be ideal for glass eel holding, there should be, for example, no sharp corners or edges, no excessive flow rates and no abrupt changes in flow rate. Some buyers may use facilities that have been adapted rather than specially designed, and thus may not be ideal.<br><br>***Transport***<br>No animal shall be transported unless it is fit for the intended journey, and all animals shall be transported in conditions guaranteed not to cause them injury or unnecessary suffering. Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport.<br>There is no 'aspiring' score criterion for transport – anything less than the optimum standard is considered not acceptable.<br><br>***Restocking requirements under the EU Regulation***<br>The Eel Regulation requires that 60% of glass eels from fisheries should be made available for restocking (although the EU can make temporary changes to the % in response to a significant decline of average market prices for eels used for restocking). To help support this important part of the Regulation, it is built into the SEG standard.<br>In France there are quotas for restocking and consumption and those earmarked for restocking must, by law, be used for that purpose. That is transcribed to this standard.<br>In other countries, the 60% target is adopted in the standard. The ability for the sector as a whole to achieve 60% is dependent on governments and grant funding organisations making funds available to purchase sufficient glass eels at a reasonable price to make restocking worthwhile for fishers and traders.<br><br>***Segregation***<br>• Certified and non-certified batches of eels of any life stage are kept in separate and clearly labelled tanks<br>• Eels from the glass eel consumption and restocking quotas are kept in separate and clearly labelled tanks<br>• Such segregation is maintained from point of collection through holding to sale and onward transport |

| | |
|---|---|
| **Benefits** | • Increased supply, demand and proportion of certified eels in the market<br>• Improved welfare and survival of eels during handling<br>• Reduction in demand and supply of eels for illegal export and a reduction in trafficking |
| **Rationale** | The rationale in the issues and notes are described above. |
| **Measures** | • The amount (weight) and proportion (%) of eels traded by each certified and non-certified traders. The proportion from certified traders increases from 75% to 90% over the next 5 years, 2023 – 2028.<br>• Survival rates of transported fish show a continuous improvement |

| **CRITERION 4.1: THE GLASS EEL HOLDING OPERATION IS A LEGALLY REGISTERED FACILITY** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The Glass eel holding facility is a registered Aquaculture Production Business and/or meets all the legal requirements for the country.<br>• In France, if the organisation handles more than 20 tonnes per year, it is registered for ICPE (Classified Installations Environmental Protection) |
| **Aspiring indicators** | • The facility is not a registered Aquaculture Production Business or meeting all the legal requirements, but has credible plans to register within the next 12 months. |

| **CRITERION 4.2: MORTALITY IN STORAGE FACILITY** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | Mortality rates, after the first week (after fishing), are less than 2% on average. |
| **Aspiring indicators** | Mortality rate after the first week (after fishing), is less than or equal to 4% on average but greater than or equal to 2% |

| **CRITERION 4.3: MORTALITY DURING TRANSPORT AND INITIAL HOLDING IF TRANSPORTED TO FARM** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | Mortality during transport and for the first week at the destination is less than 2% on average. |
| **Aspiring indicators** | Mortality during transport and for the first week at the destination is less than or equal to 4% on average but greater than or equal to 2% on average. |

| **CRITERION 4.4: WATER QUALITY** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • A system is in place that is expected to keep key water quality parameters within suitable tolerances for healthy eel survival (e.g. Ammonia, Suspended Solids, pH, 02)<br>• Water quality management procedures are in place including regular monitoring of relevant parameters which shows that water quality is always high and stable<br>• The facility operates a back-up system to ensure that water quality will not adversely affect survival rates in the case of an equipment failure. |
| **Aspiring indicators** | • A system is in place that is expected to keep key water quality parameters within suitable tolerances for healthy eel survival (e.g. Ammonia, Suspended Solids, pH, 02)<br>• The facility has a minimum of a back-up generator and oxygen supply. |

| **CRITERION 4.5: HANDLING AND WELFARE** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Systems are in place and the facility is designed to keep handling to a minimum<br>• Documented procedures are in place for handling, and handling is careful<br>• The infrastructure is designed to avoid injuries, and so that the use of nets is rarely necessary. When used, nets are small-mesh (1mm maximum)<br>• Eels are moved without being allowed to dry out. |
| **Aspiring indicators** | • The facility may not be optimally designed, but systems are in place to avoid handling as much as possible within the constraints of the facility<br>• Handling, where necessary, is carefully planned and executed<br>• The infrastructure has been optimised as far as possible to avoid injuries<br>• Nets are small-mesh (1mm maximum)<br>• Eels are moved without being allowed to dry out. |

| **CRITERION 4.6: TRANSPORT** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • There is a documented Transport Plan in place to minimise travel time – this meets the Transport requirements for vertebrates<br>• Packing is done in a way that minimises handling, time and stress<br>• Eels are kept cool and wet with an adequate supply of oxygen<br>• The operator is trained and holds the relevant transport authorisations for its country(s) of operation |
| **Aspiring indicators** | • There is no documented Transport Plan in place<br>• Packing is done in a way that minimises handling, time and stress<br>• Eels are kept cool and wet with an adequate supply of oxygen<br>• The operator holds the relevant transport authorisations for its country(s) of operation |

| **CRITERION 4.7: THE TARGET PERCENTAGE OF GLASS EELS IS BEING USED FOR RESTOCKING** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | • **In France:** Glass eels are sold according to their earmarked quota – glass eels for restocking are sold only for restocking<br>• **Outside of France:** The buyer can provide documented evidence that they have sold at least 60% for restocking the required target percentage of its glass eels from the last season for the primary purpose of conservation / escapement. |
| **Aspiring indicators** | • **In France:** No aspiring indicator (nothing less than meeting the requirements of the quota is suitable or even legal)<br>**Outside of France**<br>• The buyer can provide documented evidence that they have reserved or made available at least 60% of the required target percentage of its glass eels from the latest season available for the primary purpose of conservation / escapement, OR:<br>• The buyer can provide documented evidence that it has made available glass eels to the maximum level possible within the constraints of the implementation of the EMP in that country |

| CRITERION 4.8: BIOSECURITY IS PRESENT AND DISEASE IS TREATED RAPIDLY AND APPROPRIATELY | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The use of chemicals follows legal requirements of the appropriate EU regulations or of the country concerned.<br>• The facility has the appropriate permissions to operate from the relevant licensing authority<br>• An effective and documented biosecurity plan is in place and there is evidence that it is being followed.<br>• Records are available showing regular monitoring of health and possible signs of stress according to the facility's plan (including the completion of microscope parasite checks) and daily mortality is recorded.<br>• Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility. |
| **Aspiring indicators** | • The use of chemicals follows legal requirements of the appropriate EU regulations or of the country concerned.<br>• The facility has the appropriate permissions to operate from the relevant authority<br>• An effective and documented biosecurity plan is in place and there is evidence that it is being followed.<br>• Eels are regularly monitored for health and possible signs of stress (although this might not be documented) and daily mortality is recorded.<br>• Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility. |

## COMPONENT 5 – EEL FARMING

| | |
|---|---|
| **Issues** | High survival rates and growth rates in fish farms compared to the wild enable the efficient use of millions of glass eels for restocking, and for the provision of high quality food for human use. However, fish farms must be well run to be both profitable and responsible. Poor husbandry can lead to disease, high mortalities and pollution. Feed is often made with other fish species and these should be from certified sustainable or responsible sources. The farm should be contributing to restocking to play its part in supporting eel conservation projects. |
| **Notes** | **If the eel farm has achieved another fish farming standard, e.g. Aquaculture Stewardship Council (ASC), evidence presented for that can be used in assessment here.**<br><br>***Mortality rate during culture***<br>Unlike for the fishery, traceability at the farm level should ensure that mortality can be measured directly and evaluated reliably by the assessor. The following methodology should therefore be used:-<br>• Measure the mortality in pieces of kg / day / system<br>• Add up and calculate total pieces/ kg for the Year<br>• Mortality calculation is:<br>- no. pieces (mortality) / mean no. pieces on site in the Year as a %, or<br>- kg mortality per year / mean kg stock in that year<br>• This should be calculated for each year class (new intake) in each year and those figures made available over 3 years. There are usually 3 year classes in most eel farms, and the average lifetime of eel in a farm is 1.5 years.<br><br>***Feed***<br>For feed products other than pelleted feed (eg. cod roe), it is the responsibility of the organisation under assessment to show that the source is from responsible or sustainable sources. Feed companies should be prepared to provide the sources and breakdown of feed ingredients, which should be from certified sources.<br>The MarinTrust [1] is a third-party certification programme that certifies the production of marine ingredients (the MarinTrust standard) and the Chain of Custody of those marine ingredients (MarinTrust CoC standard). The MSC and ASC standards may also be applied to certify the ingredients of feed. 'FMFO' refers to fish sourced in the feed according to the 'first manufactured and first out principle'.<br><br>***Feed conversion ratios***<br>A good Feed Conversion Ratio (FCR) is key to ensuring that the farm is operating efficiently and using its feed in an effective manner.<br><br>***Slaughter methods***<br>The European Food Standards Agency [2] describes that eels should be stunned using electric or pervasive stunning before killing. That best advice and practice is applied here. |
| | ***Restocking of cultured eels***<br>The requirement for restocking eels during culture distinguishes between the actual provision of eels for restocking and eels being 'made available' for re-stocking (i.e. a willingness on the part of the eel growers to provide eels for restocking as and when there is a market, even if the market is less lucrative than the market for eel product). Whichever is used, the farm must be able to provide evidence to support this and to show that the eels are going for the purposes of restocking (documentation for the purchasers stating this intended purpose would act as sufficient evidence here). Restocking in this context refers to restocking for the primary purpose of enhancing local eel populations.<br><br>Restocking percentages should be calculated by piece, although an average weight may be used to calculate this. The calculation to be used would be:<br>**(Year restocking Total (by piece )/Year intake (by piece) = % Restocked per year**<br><br>***Slow growers***<br>Slow growers are not to be selectively used for restocking as that could alter the freshwater population in a way that is unnatural and could affect genetics.<br><br>***Restocking and consumption quotas***<br>Glass eels purchased for eel farming for consumption must only have come from the glass eel consumption quota.<br><br>***Segregation***<br>• Glass eels purchased for eel farming for consumption must only have come from the glass eel consumption quota.<br>• Certified and non-certified batches of eels of any life stage are kept in separate and clearly labelled tanks<br>• Such segregation is maintained from point of collection through holding to sale and onward transport |
| **Benefits** | • Survival is maximised<br>• Eel farms play their part in eel conservation and enhancement projects<br>• Food for human consumption is provided with minimal impact on the environment |
| **Targets & Measures** | • An increasing number and proportion of eel farms are SEG certified.<br>• By 2028, the total proportion of certified eel that passes through eel farms in Europe is 90%. |

| **CRITERION 5.1: THE TOTAL MORTALITY RATE DURING THE CULTURE PROCESS IS LOW** | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | • The Percentage Mortality Rate of eels in culture is less than or equal to 10% on average in the current and previous year OR as an average of the previous five years<br>• An accurate daily log is maintained of the number and causes of mortality |
| **Aspiring indicators** | • The Percentage Mortality Rate of eels in culture is between 10 and 15% on average in the current and previous years OR as an average of the previous five years.<br>• An accurate daily log is maintained of the number of mortalities |

1) https://www.marin-trust.com
2) https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2009.1014



| CRITERION 5.2: THE FISH MEAL/OIL INGREDIENTS IN THE FEED COME FROM A SUSTAINABLE OR RESPONSIBLE SOURCE | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Fish as 'FMFO' in the feed (including juvenile feed) comes from either an MSC certified fishery or a Marin Trust certified factory, or the feed is sourced from an ASC certified feed mill." |
| **Aspiring indicators** | • Fish meal/oil in the feed (including juvenile feeds) is not from one of these certified sources, but there are credible plans to move to such a supplier within 12 months. |

| CRITERION 5.3: FEED IS USED AS EFFICIENTLY AS POSSIBLE | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | The average feed conversion ratios in the farm are, overall less than 1.6. |
| **Aspiring indicators** | The average feed conversion ratios in the farm are, overall between 2.0 and 1.6. |

| CRITERION 5.4: WATER QUALITY | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • A system is in place that is expected to keep key water quality parameters within suitable tolerances for healthy eel survival (e.g. Ammonia, Suspended Solids, pH, Oxygen)<br>• Water quality management procedures are in place including regular monitoring of relevant parameters which shows that water quality is always high and stable<br>• Water quality monitoring is linked to an alarm-based system in the event of a sudden drop in water quality<br>• The facility operates a back-up system to ensure that water quality will not adversely affect survival rates in the case of a power supply failure. |
| **Aspiring indicators** | • A system is in place that is expected to keep key water quality parameters within suitable tolerances (e.g. Ammonia, Suspended Solids, pH, Oxygen)<br>• Water quality management procedures are in place and there is regular monitoring of relevant parameters which shows that water quality is always high and stable. |

| CRITERION 5.5: THERE ARE MINIMAL ECOLOGICAL IMPACTS FROM EFFLUENT DISCHARGE | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The system is closed-circuit and has no discharge OR<br>• Effluent discharge is regularly tested by the farm AND<br>• Effluent discharge complies with all local and national requirements AND<br>• Has not been found to be non-compliant in the past 5 years. |
| **Aspiring indicators** | • Effluent discharge is regularly tested by the farm AND/OR<br>• Has been found to be non-compliant on no more than 1 occasion in the past 5 years. |

| CRITERION 5.6: GRADING, SLAUGHTER AND TRANSPORTATION ARE CARRIED OUT WITH RESPECT TO WELFARE | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Grading is completed in an efficient manner<br>• Slaughter is completed by a method that provides an instant death or renders them insensible to pain, i.e. electric stunning or percussive stunning.<br>• Procedures are in place to ensure transportation provides suitable conditions for fish welfare. |
| **Aspiring indicators** | • Other, previously acceptable methods of stunning before slaughter are used, e.g. chilling, but there are credible plans in place to invest in the latest methods within the next 12 months. |

| CRITERION 5.7: THE ORGANISATION PROVIDES EEL FOR RESTOCKING | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | • The organisation can provide documented evidence that 10% or more of its annual eel production (by piece) has been provided for restocking for the purpose of conservation / silver eel escapement and that<br>• All eels purchased from the restocking quota have been used for restocking |
| **Aspiring indicators** | • The organisation can provide documented evidence that it makes 10 % of their annual eel production (by piece) available for restocking for the primary purpose of conservation / silver eel escapement AND/OR for new clients, the farm can demonstrate that they have bookings for re-stocking in the following year at more than 10% of the predicted annual eel production (by piece) for the purpose of conservation / escapement, and<br>• All eels purchased from the restocking quota have been used for restocking |
| **Exceptions** | • Farms which only produce fingerlings for other farms are excluded because the responsibility for restocking is with the farms which buy the fingerlings |

| CRITERION 5.8: EELS FOR RESTOCKING ARE NOT GRADED OUT SLOW-GROWERS | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | The age of eels used for restocking are no more than 12 months older than from the date of the glass eel intake. |
| **Aspiring indicators** | The age of eels used for restocking are no more than 18 months older than from the date of the glass eel intake. |

| CRITERION 5.9: BIOSECURITY IS PRESENT AND DISEASE IS TREATED RAPIDLY AND APPROPRIATELY | |
|---|---|
| **Weighting: 2** | |
| **Responsible indicators** | • The facility has the appropriate permissions to operate from the relevant authority.<br>• The use of chemicals follows legal requirements of the EU or of the country concerned<br>• An effective, documented biosecurity plan is in place and is being followed.<br>• Daily records are available showing monitoring of fish health and signs of stress and daily mortality is recorded<br>• Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility<br>• Ultra Violet light is used at an appropriate level to control diseases |
| **Aspiring indicators** | • The facility has the appropriate permissions to operate from the relevant licensing authority<br>• The use of chemicals follows legal requirements of the EU or of the country concerned.<br>• An effective and documented biosecurity plan is in place and there is evidence that it is being followed.<br>• Eels are regularly inspected for disease (although this may not be documented) and daily mortality is recorded<br>• Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility. |

## COMPONENT 6 – RESTOCKING

| | |
|---|---|
| **Issues** | A discussion about in restocking is provided in Section 5.5.<br>Whilst restocking is an accepted measure in the Eel Regulation, and this standard seeks to support the regulation, the standard sets criteria for doing it responsibly, and according to best practice. |
| **Benefits** | • Escapement of silver eels in the target catchment is increased towards or beyond the 40% of B0 target<br>• Local eel populations are enhanced, benefiting wildlife and biodiversity<br>• Local fisheries are supported |
| **Rationale** | This depends on the unproven assumption that taking glass eels from areas of abundance and stocking them to areas of low recruitment, leads to an increase in the eel populations overall in European, Scandinavian and North African waters, and a corresponding increased escapement of silver eels, leading to increased spawning and subsequent increased recruitment of glass eels; or, at the least, that it boosts eel populations and biodiversity in the restocked waters. |
| **Targets & Measures** | • Silver Eel escapement in the recipient catchment is measured with increasingly confident calculation by the local fisheries authority<br>• Restocking and the impact on eel escapement is measured<br>• Silver eel escapement is increasing towards or at the 40% target |

| **CRITERION 6.1: RESTOCKING IS CARRIED OUT IN ACCORDANCE WITH AN APPROVED EMP, IN ORDER TO IMPROVE ESCAPEMENT TO OR ABOVE THE 40% TARGET AND IS APPROVED BY THE RELEVANT AGENCY** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • The eel management plan is approved and the restocking is part of the agreed programme that should with reasonable confidence lead to the 40% escapement target being achieved in the future.<br>• Fishing in the restocked area is at a level such that the 40% survival target is exceeded. |
| **Aspiring indicators** | • The management plan is approved and there is evidence that it is being implemented. The restocking is a part of the management plan.<br>• Fishing in the restocked area is at a level such that 30 – 40% survival is achieved. |

| **CRITERION 6.2: SURVIVAL AND GROWTH RATES OF RESTOCKED EELS, AND ESCAPEMENT FROM THE SYSTEM, CAN BE ESTIMATED** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • A monitoring programme calculates survival rates and growth rates of restocked eels such that there is good evidence that restocking is significantly enhancing eel biomass and contributing to escapement.<br>• There is active research on means of improving the restocking programme or restocking techniques. |
| **Aspiring indicators** | • A monitoring programme estimates survival, growth and escapement. The existing evidence suggests that restocking is enhancing eel biomass and contributing to escapement. |

| **CRITERION 6.3: THE RESTOCKED AREA IS SUITABLE FOR EEL GROWTH, SURVIVAL AND ESCAPEMENT** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Ecological information suggests that the system into which eels are restocked is suitable eel habitat (e.g. type of water body, productivity, with former presence of eels).<br>• There are no significant barriers to escapement of silver eels from the system OR systems are in place which demonstrably allows a significant proportion of silver eels to circumvent these barriers (e.g. effective passes or trap and transport).<br>• Stocking is carried out at densities appropriate to the capacity of the environment (productivity, temperature). |
| **Aspiring indicators** | • It is reasonable to assume by analogy with other systems the system into which eels are restocked is good eel habitat.<br>• If there are barriers to escapement of silver eels, plans are being put in place to allow a reasonable level of escapement which will be implemented in time to allow this restocking cohort to contribute to escapement.<br>• Stocking is carried out at densities appropriate to the capacity of the environment (productivity, temperature). |

| **CRITERION 6.4: BIOSECURITY: THE RISK OF RESTOCKED EELS INTRODUCING DISEASE INTO WILD POPULATIONS HAS BEEN ASSESSED AND IS MINIMAL** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | Eels are tested before restocking and found to be free of disease AND/OR eels are from a known source which is tested on at least an annual basis and known to be free of disease. |
| **Aspiring indicators** | Eels are tested before restocking when first sourced from a new area, and periodically (at least annually) thereafter to ensure they are free from disease. |



## COMPONENT 7 – PROCESSING, WHOLESALE AND RETAIL SUPPLIES

| | |
|---|---|
| **Issues** | This component describes the sometimes short, sometimes long chain from the eel leaving the fishery or fish farm, processed for human consumption (e.g. filleted, smoked, jellied), distributed to retailers and then sold to the consumer (e.g. the public, restaurants).<br>In some cases, a number of processes might be carried out by the same business, e.g. some family businesses in the Netherlands have their own eel farm, their own smoker and sell direct to the public. |
| **Notes** | There are few additional criteria for processors, wholesalers and retailers. These are in addition to those in Component 1.<br>Where the facility undertakes other processes in this standard, e.g. perhaps eel farming, the business and assessor shall decide the relevant components to audit.<br>Where a processor receives live eels, the criterion for welfare shall be applied.<br>Processors are producing food for human consumption so the organisation must meet the relevant food production standards. |
| **Benefits** | • Customers and consumers have the opportunity and choice to purchase responsibly sourced eel |
| **Targets & Measures** | • An increasing number and proportion of processors, wholesalers and retailers provide certified eel, from 5% in 2018 to 75% in 2028<br>• An increasing proportion of total retail sales is of certified eel, from 5% in 2018 to 75% in 2028 |

| **CRITERION 7.1: BIOSECURITY AND FOOD HYGIENE** | |
|---|---|
| **Responsible indicators** | • The operator has a valid food producer registration according to relevant legislation<br>• Food processing hygiene plans are followed and the operator has not been fined by national authorities for hygiene non-compliance in the last three years |
| **Aspiring indicators** | • The operator has a valid food producer registration according to relevant legislation<br>• Food processing hygiene plans are followed and the operator has not been fined by national authorities for hygiene non-compliance in the last two years |

| **CRITERION 7.2: ANIMAL WELFARE** | |
|---|---|
| **Weighting: 1** | |
| **Responsible indicators** | • Procedures are in place to ensure transportation and storage in holding tanks provides suitable conditions for fish welfare.<br>• Slaughter is completed by a method that provides an instant death or renders them insensible to pain, i.e. electric stunning or percussive stunning. |
| **Aspiring indicators** | • Procedures are in place to ensure transportation and storage in holding tanks provides suitable conditions for fish welfare.<br>• Other, previously acceptable methods of stunning before slaughter are used, e.g. chilling, but there are credible plans in place to invest in the latest methods within the next 12 months . |

## 11. Assurance

The rules, procedures and guidance for the governance and assurance of the standard are now separated from the standard itself and described in the 202 SEG Assurance System, which is published on the SEG website [1].

1) https://www.sustainableeelgroup.org/the-seg-standard-system

## 12. Measuring impact

The following measures are applied to identify the impact this standard is having on its objective to improve practices within the eel sector and contribute to the recovery of the eel population.
These form a significant part of our 301 Monitoring, Evaluation and Learning (MEL) System and 302 MEL Plan, developed according to the ISEAL Code and published on the SEG website [1].

| COMPONENT | MEASURES |
|---|---|
| **Output measures** | |
| **1. Commitment to legality** | • The level of illegal trade in glass eels (number of tonnes) measured as the unaccountable reported catch in Europe |
| **2. Trading in certified eel** | • The number and % of businesses in each part of the sector achieving the standard |
| **3. Traceability** | • Amount (tonnes) and proportion (%) of sales that are certified traceable from a responsible source |
| **4. Glass eel fishing** | • The amount (tonnes) and proportion (%) of glass eels caught from each certified and non-certified fisheries<br>• % survival rates from fishing handling |
| **5. Yellow & silver eel fishing** | • The amount (tonnes) and proportion (%) of yellow and silver eel fisheries caught from each certified and non-certified fisheries |
| **6. Eel buying and trading** | • The amount (tonnes) and proportion (%) of eels from each certified and non-certified fisheries |
| **7. Eel Farming** | • Amount (tonnes) and proportion of certified eels passing through eel farms |
| **8. Restocking** | • The % (number) of all glass eels caught provided for restocking |
| **9. Wholesale & retail** | • Number and proportion of businesses, and proportion of sales using the relevant logo to denote product is traceable, responsibly sourced<br>• Suppliers and consumers have confidence that the label is credible and they understand what it means |
| **Impact measures** | |
| **Environmental** | • Glass eel returns as reported by the ICES WGEEL recruitment index<br>• Silver eel escapement in Eel Management Districts, as reported by ICES WGEEL<br>• Protection for the European eel achieves the target of 40% survival<br>• Barriers to migration are removed or adequately mitigated, initially to meet the 25,000km river target in the Swimways Network[2] by 2030<br>• Wetland habitats are restored to increase the quantity, quality and connectivity of the aquatic environment for eels. |
| **Social** | • Number of people employed (certified and whole sector)<br>• Greater engagement of all stakeholders interested in the European eel<br>• Illegal eel trade is minimised (ultimate goal is 0%)<br>• An increasing proportion (ultimate goal 100%), of eel fishing, trade and consumption demonstrates its commitment to protection and responsible use by meeting the SEG standard<br>• The Sustainable Eel Group is a successful advocate of eel protection, sustainable use and recovery with governments and stakeholders. |
| **Economic** | • Total value of sales of eel (certified, uncertified, consumption and restocking) €.<br>• The damaging effects of water operations to eel populations are minimised,<br>• The livelihoods of those that fish and trade responsibly in eel are maintained. |

1) https://www.sustainableeelgroup.org/the-seg-standard-system
2) https://europe.wetlands.org/news/wetlands-international-europe-launches-swimways-network-aimed-at-boosting-migratory-fish-conservation

## The SEG Standard

### A Best Practice Code of Conduct for a Responsible Eel Sector


Version 7.4
May 2025

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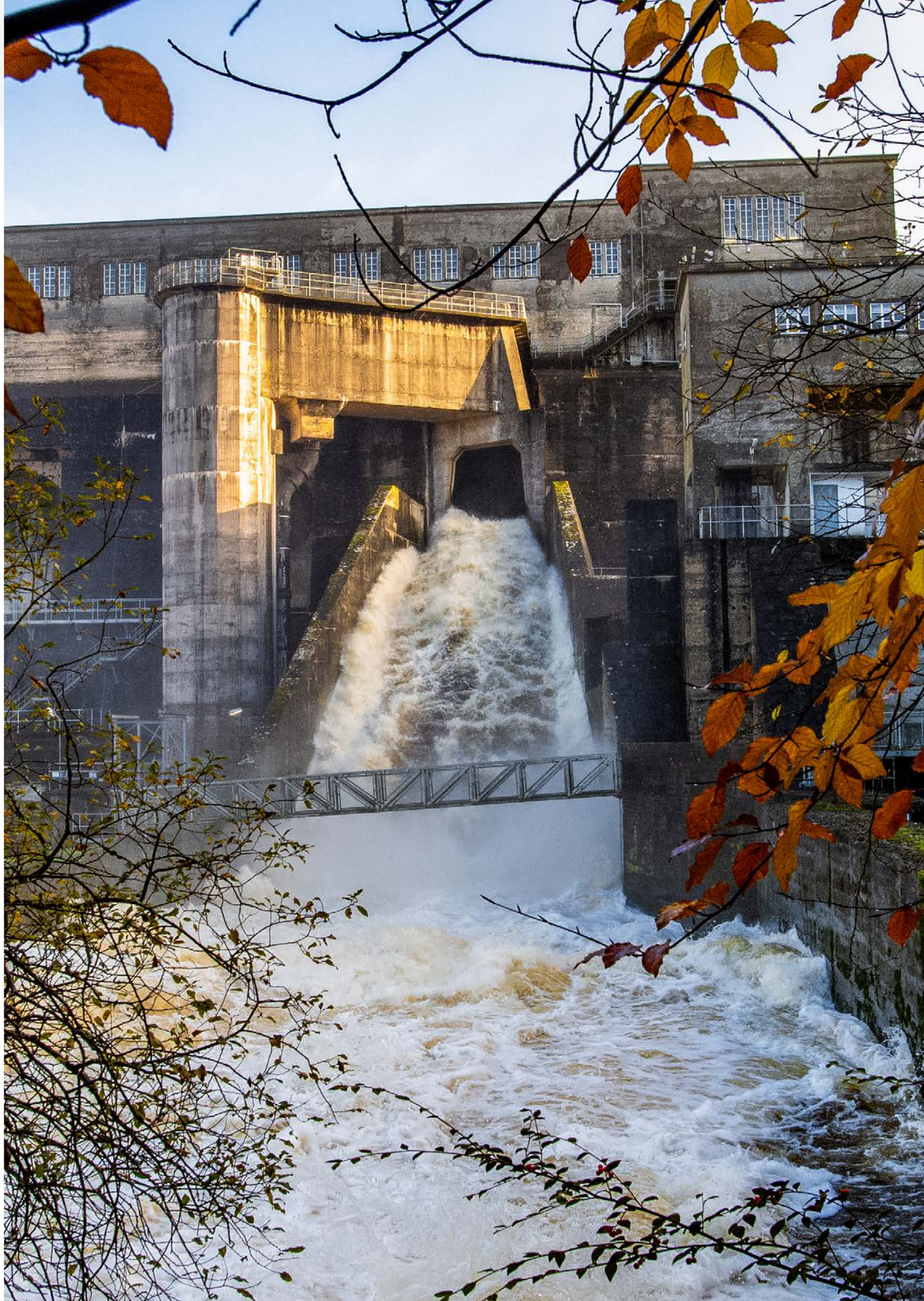

Sustainable *Eel* Group