

Fishing the protected European eel with the SEG standard

We often get asked: 'How can it be OK to fish the European eel, which IUCN classifies as *Critically Endangered*?' Fishing a protected species seems contradictory. We explain why we think it isn't.

Who is SEG?

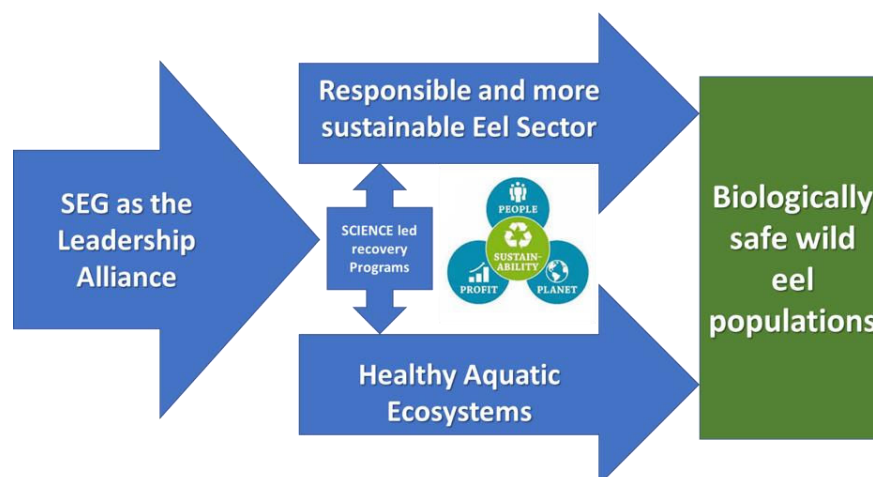
The [Sustainable Eel Group](#) (SEG) is the leading international organisation working to accelerate the recovery of the European eel.

Our long term aim, following decades of decline in eel numbers is:

Healthy wild eel populations supporting sustainable use for the benefit of all.

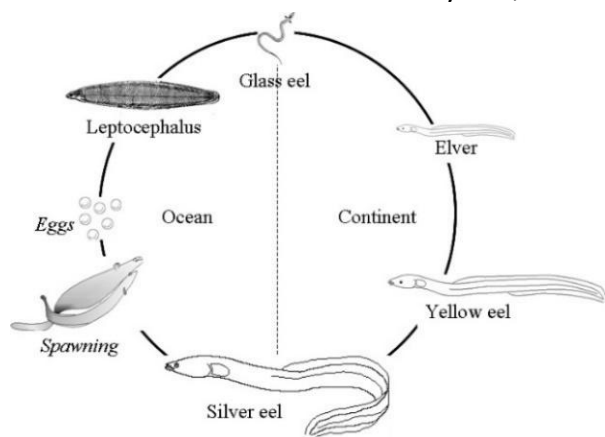
This diagram summarises our aim and how to achieve it.

Click the diagram for more information.



Background to the European eel

An understanding of the European eel's fascinating life-cycle is important. Adults migrate from European rivers 5,000 km across the Atlantic to spawn in the Sargasso Sea near Bermuda. They die after spawning. The larvae drift back to Europe on the Gulf Stream to populate the rivers, lakes and estuaries of Europe and North Africa. It is one, genetically similar population. On reaching the coast, they are 7 cm long, are transparent baby 'glass' eels before they start migrating up rivers where they grow into the bigger 'yellow' eels we are familiar with. After 5-15 years, these mature into 'silver' eels and return to the sea to spawn.



Life cycle of the eel



Adult European eel

Why are eels important?

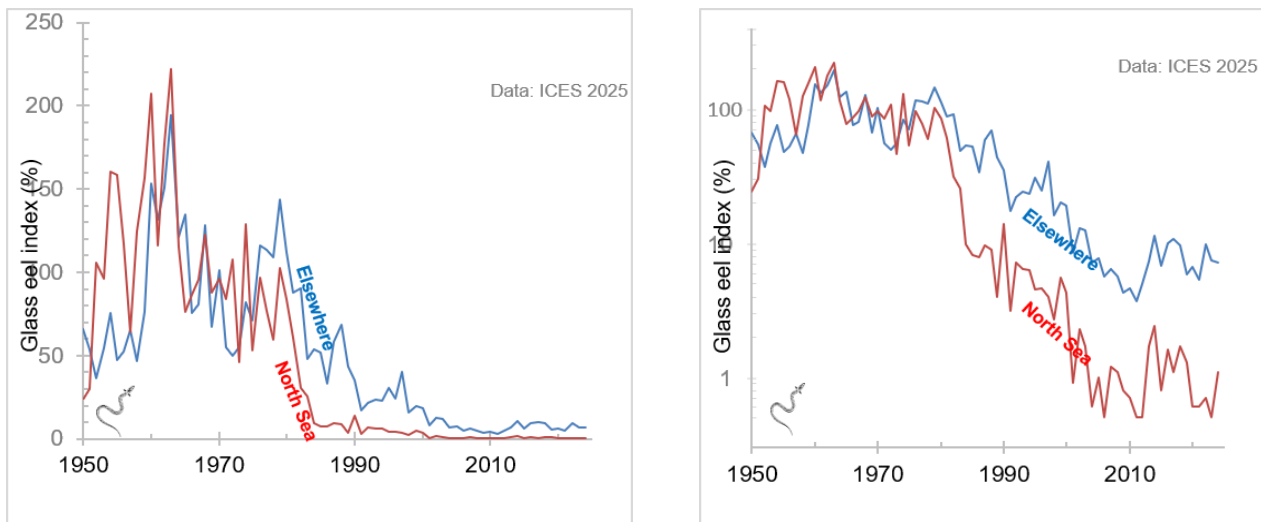
Eels are an important part of aquatic environments, being a recycler of nutrients and food for species such as otters, egrets, bitterns and herons. Across Europe, they provide fishing, food and livelihoods for about 10,000 people and legal trade worth €500M a year. They are fished at all life stages: glass eels in estuaries, yellow eels in rivers and lakes and silver eels on their way back to the Sargasso Sea.

Eels in decline

Eel stocks have been declining for a century or more, since the industrial revolution. Arrivals of glass eels from the ocean saw a steep decline since the early 1980s and are [now below 10%](#) of that just 45 years ago. The [main causes](#) of the decline are: [1.3 million migration barriers](#) across Europe blocking access to 90% of habitat; being sucked into pumps and hydropower turbines; climate change impacting survival in the ocean; illegal fishing and introduced parasites.

In response to this decline, the EU Eel Regulation was adopted in 2009; trade outside of the EU was regulated under CITES in 2009; SEG was created in 2010. It also caused IUCN to place the eel on its [Red List of Threatened Species](#).

At the [last estimate](#) in 2017, an average of 1.3 billion glass eels a year have been arriving to Europe. A more [recent analysis](#) of trends suggest that numbers have been starting to rise again since 2011, two years after the Eel Regulation was adopted:



The trend in glass eel recruitment over the past decades. Left: on a normal, linear scale; right: the same data, on a logarithmic scale. The logarithmic scale enables to focus on the developments at low levels, as we experience now. Data: [ICES \(2025\)](#).

Whilst this recent improvement gives us cause for hope, there is a long way to go to achieve full recovery.

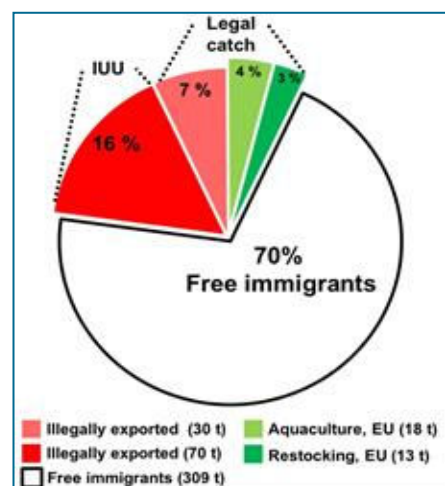
Our challenge

We face a challenging task. The European eel stock is at a historical low, and many human activities have had an impact on it. Many efforts are underway to protect and restore the eel population.

The 2007 [EC Eel Regulation](#) made law for the 'protection and sustainable use' of the eel stock. It specified how human impacts must be reduced to a level that allows the species to recover. The SEG standard defines greater levels of protection than the Eel Regulation. By voluntarily complying with it, the commercial sector can play a responsible stewardship role in the eel's recovery.

The idea of fishing a protected species seems contradictory. Here we explain how this is possible...

- When fisheries are banned, illegal fishing usually moves in. Legal fishing tends to 'self-police' and control the illegal activities. Banning eel trade is likely to lead to illegal fishing and trade to Asia.
- Much eel trade is for 'restocking' for Eel Management Plans across Europe. That is catching and moving glass eels from areas where they are plentiful (and most would naturally die) to where they are sparse. This aims to create more eels overall across Europe.
- Illegal trade is a major risk to the eel's recovery. In 2018, [Europo](#) estimated that 350 million glass eels were illegally exported to Asia. That is three times as much as the legal market in Europe, and a quarter of the estimated population. Tackling that will have a greater benefit for the eel than banning fishing. See the chart that shows these proportions →



[SEG 2018](#)

- Fishing pressure has already reduced by about half over the past 10 years. Many other human impacts haven't yet been reduced by anywhere near the same amount. Reducing fishing further is unlikely to have little effect until hundreds of thousands of weirs, dams and other barriers to migration are removed – these prevent eels populating their natural habitats; and flood and water supply pumps, and hydropower intakes are screened – these chop up and kill eels as they migrate.

The SEG standard

The [SEG standard](#) is a series of tests to show when eel fishers and traders are doing so responsibly.

Full recovery of the eel population will take many generations and decades as this diagram shows.

The SEG standard enables those in the legal supply chain to show responsible and ultimately sustainable practice, leading to full recovery of the eel in a step-wise and transitional approach:

Trading eel under the SEG standard:

1. Uses glass eels where they are plentiful and most die naturally, to enhance areas of low abundance where less die, aiming to create more eels overall
2. provides high-quality food with minimal waste and
3. causes awareness of the eel's plight and income to aid its recovery.

Fishing, trading and eating eel responsibly via the SEG programme aims to have a positive contribution to the eel's protection, therefore aiding its recovery. The standard is based on the concepts of best practice and responsibility to minimise the impacts of fishing and trading on the eel stock. The standard is regularly reviewed. It continues to improve, stepwise, as we gain scientific knowledge and as we transition from irresponsible and unregulated, to responsible, well regulated and ultimately sustainable practices.

Scientific advice, guidance, policy and legislation guiding the content of the SEG standard are:

- International Council for the Exploration of the Seas (ICES) Working Group on Eels (WGEEL) advice
- The EU Eel Regulation 2007
- IUCN Guidance
- Making a positive contribution to eel protection

More about these here:

ICES advice

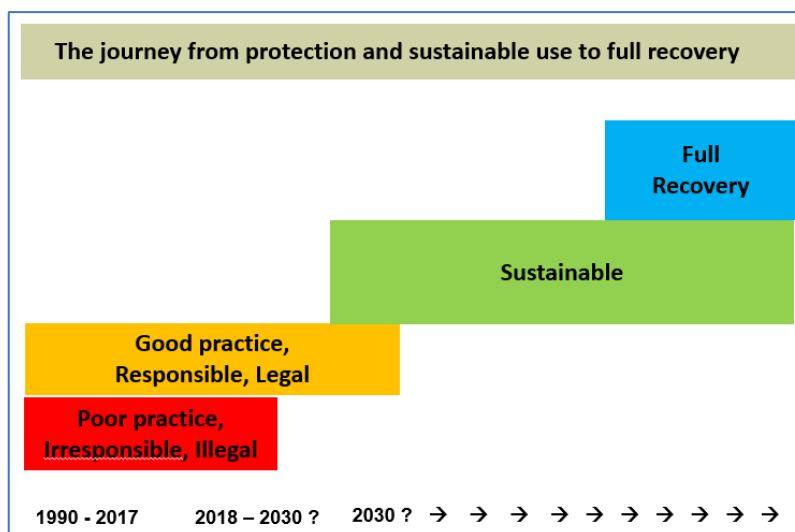
The eel stock is widespread and scattered over many different habitats. In the absence of reliable information for the whole stock, [ICES'](#) precautionary advice is to reduce all human impacts to as low as possible. As discussed above, SEG sees that well-regulated fishing under the SEG standard is the most responsible, and lowest-achievable fishing pressure, and that other impacts such as barriers, pumps and illegal trade must be addressed with priority.

EU Eel Regulation 2007

The SEG standard aligns with the [EU Eel Regulation 2007](#), which is for the '*Protection and sustainable use of the eel stock*'. The SEG standard goes further than is required to be legal by this legislation.

Guidance by IUCN (International Union for the Conservation of Nature)

The IUCN classifies the European eel on its Red List of Threatened Species as Critically Endangered. The main argument for that status is the rapid decline in recent decades. SEG considers that a stock as abundant as the eel still is, needs responsible protection, but that a blanket ban on all fishing, would be counter-productive.



IUCN states in its 2016 [Guidelines for Appropriate Uses of IUCN Red List Data](#):

'8. The Red List is not, on its own, a system for setting conservation priorities' and...

'Well regulated trade can contribute positively to the conservation of some threatened species and may be essential for human livelihoods.'

So, the IUCN guidelines suggest that the eel can be fished as long as the trade is well regulated.

A Positive Contribution

Here we explain how SEG standard compliant fishing and trade can actually assist the eel's recovery.

Much of the trade in glass eels is for restocking. They are moved from where they are plentiful and most die, to where they are sparse and more are likely to survive. This aims to create a greater number of eels overall and so a positive contribution to its protection – and one which makes up for those sold for eating. The following are examples of how parts of the SEG standard also aim for a positive contribution:

Criterion 1.1: Commitment to Legality. This aims to reduce the level of illegal fishing and export of eels so that (a) more are kept and used in Europe and (b) less are caught overall.

Criterion 1.2: Contribution to Eel Conservation Projects. When a consumer buys a SEG or [Eel Stewardship Fund](#) labelled product, part of the purchase price goes towards eel conservation projects. Examples are: building eel passes to help eels migrate; in Holland, every autumn eel fishermen move 5 – 12 tonnes of silver eels (up to 10,000 fish) '[over the dyke](#)' into the sea; financial support for SEG's anti-trafficking work.

Criterion 2.1: Eel fishing is from a fishery that is meeting its escapement targets.

The standard only accepts eel fishing from places where the populations are well-protected and, for glass eels, where there are surplus fish that can be moved to underpopulated waters.

Criterion 2.4: Mortality during fishing is minimised. Death due to poor handling must be less than 8%. This has driven better practice where, in some places, handling mortality used to be 50%.

Criterion 4.7: The required percentage of glass eels is used for restocking. The Eel regulation specifies 60% of glass eels be offered for restocking. The standard is issued only where this has been met.

Summary

- The SEG Standard:
 - Aligns with the EU Eel Regulation, which is for the protection and sustainable use of the eel stock
 - Is compatible with IUCN Guidance on its Red List of Threatened Species
 - Enables well-regulated fishing or trade to have a positive contribution to eel protection
 - Supports the traceability of supply chains and anti-trafficking
 - Provides the individual fisher/trader/processor a means to show their trade is certified as responsibly sourced as indicated by the SEG or ESF logo:



Business to
business logo



Consumer
facing logo

- The SEG standard is driving a significant shift in the attitudes of those in the sector towards building a traceable, responsibly sourced supply chain from fishery to consumer.
- There is reason for hope. The latest glass eel arrivals data suggest that the eel is starting to recover.

So, we believe that it is acceptable to fish, trade and eat responsibly sourced eel where it meets the SEG standard.

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