This will be updated with how those comments have been considered and included. Updated: 16 November 2017

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
Tony Norman **Rivers Lugg and Arrow Fisheries Association** tony@theleen.co.uk	N/A	We feel that all fishing for glass eels should be stopped until the European eel is removed from the 'Red List'. The one exception (and only where there is a surplus) would be for stocking in suitable habitat above impassable obstacles.	
Dai Francis **Severn & Wye Smokery** Dai.francis@severnandwye.co.uk	N/A	As original supporters of the standard we are pleased that measures are being made to make it relevant and more robust in a market that our customers struggle to understand what the standard stands for. The effectiveness and strength of any standard, accreditation or kite mark is dependent on customers being fully aware of the principal qualifications and beliefs of the standard. By allowing companies (as the standard does at the moment) to trade under the umbrella of the ''Sustainable Eel Standard'' and at the same time trade in wild and unstainable eel resource, you are allowing the companies to ''greenwash'' their products and discourage anyone making the costly decision to trade solely in a sustainable source. In our view processors /wholesalers/ of eel who want to subscribe to the 'SES 'should not in any way be involved handling or processing any adult 'wild' eel other than that sourced from a recognized 'SES' approved farm. This should be a principal that requires no debate. Up until now the SEG has done little to promote eel as resource and concentrated its energies on regulation of fisheries, restocking, habitat improvement and unblocking of migratory pathways as the end of the 1st paragraph of SES version 6 says these efforts are ''not achievable without a dynamic Eel sector.'' It is also unacceptable the think that the industry would credit an audit that is every 4 years, every two years should be the absolute minimum requirement. Whistleblower action by members is something that should be encouraged otherwise we have no way of properly policing the standard.	

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Richard Jardine RichardJJardine@hotmail.com	4.5 5.6 7 12 General	Would it be useful to mention ideal temperature and oxygen saturation for eel transport? Refer back to general section 5 for slaughter methods? Recommend that retailers use signage for eels certified by SEG (SEG provide)? Subsections in section 12 numbering is incorrect Marine Conservation Site (MCS) website refers to Eel but should have a reference to the SEG?	
Christine Absil **Good Fish Foundation** christine@goodfish.guide Comments on Version 5.2		**Comments on Version 5.2:** - Transparency of certification process is key. Will draft reports be available to the public and stakeholders? - Similar to MSC, stakeholders should be allowed to raise objections to the certification and an objection procedure should be in place. This does not seem to be the case at present. - On P5: "The final decision is taken by the SEG review panel after analysis of the assessor's report". As SEG also contains representatives from the fishing and aquaculture industry this could create, or at least suggests, conflicts of interest. Why isn't the decision of the CB leading? - The standard is mostly based on compliance with the eel management plan. Progress of the EMP's is reported to EU by the member states, but until now this progress is not evaluated further. Therefore we strongly suggest that effectiveness of an approved EMP of the MS is not taken for granted but assessed by a 3rd party as well. - Component issue indicator requirements include many qualitative statements "with reasonable confidence" e.g. component 2.1, 5.1, 5.2, 6.1. E.g. component 5.1 and 5.2 "the restocking is part of a management initiative that should with reasonable confidence lead to the 40% escapement target being achieved in the future." this statement includes several very qualitative assumptions. Namely "should lead with reasonable confidence to the 40% escapement goal". - Restocking should not be the be all end all method. Centuries of eel restocking have learned that there is no clear relationship between percentage escapement and restocking. To quote Willem Dekker (2016a): "As successful as restocking might have been locally, it has not markedly changed the overall trends and distribution patterns or halted the general decline of the stock and fishery."	

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		ISEAL compliance: We think several of the aforementioned issues in the current standard are likely to be raised by ISEAL as well. ISEAL Credibility principle 3 (relevance) requires that standard requirements are objective. The qualitative nature of some of the SEG standard requirements allows a subjective interpretation. The way ISEAL credibility principle 7 (transparency) and 8 (accessibility) are implemented is unclear. How and when stakeholders are asked to provide input during the SEG certification process should be clarified. Other issues: - Component 4.2: red score indicator mentions fish waste but the use of e.g. trimmings from salmon farming should be allowed. - Component 4.3: Feed component of the standard should not only include FCR. Fish In Fish Out (FIFO) ratio should be estimated for both fish oil and fish meal according to Jackson (2009). Ideally Forage Fish Dependency Ratio (FFDR) should be estimated similar to how this is done in the ASC standards, e.g. the 2012 salmon standard Appendix IV-1. - Component 4.3: Feed component of the standard should include steps taken to lower the aforementioned FFDR as this ratio is very high compared to other farmed fish species. - Component 4.8: Eel used for restocking should be in good health similar to that of the eels used for consumption (e.g. no selection of eels with lower sale value to be used in restocking - Component 6.3: Provisions should be made for bycatch of invasive species that is of value to the fishery such as crayfish and Chinese mitten crab. The fishers should be allowed to retain these species if it complies with national regulations - Component 6.4: A clear definition of ETP species (according to which list, IUCN, national red list, other?) should be given here. Component 6.7: A clear definition of humane slaughter methods must be given. In our opinion the only approved methods should be electric stunning and percussive stunning.	
Peter Wood **UK Glass Eels** peterwood@glasseel.com **Comments in red**	Various	2. In addition, the 40% escapement target has come under increasing challenge. Some make the observations that: • Measuring eel stocks is notoriously difficult to do accurately. So, many consider that it is impossible to calculate what the stock was before anthropogenic influences, and therefore that the 40% target, whilst a best estimate, is difficult to measure. Other targets might be more appropriate	

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		With European waters so degraded (freshwater habitat availability is perhaps 10% what is should be), that seeking a 40% escapement target from a 10% healthy environment for eel is unachievable. **Very important to recognize that measuring standing adult eel stocks is extremely difficult. We have yet to catch one eel in Llangorse Lake that can be identified as one of the 100,000 that has been translocated.** **If you cannot measure it you cannot manage it. Resources now need to be put into developing a methodology to measure stocks of all life stages.** **The 40% escapement target that has been set before anthropogenic influences is fantasy. There is a price to pay if we want to live in a modern technological society with secure water supplies, no risk of flooding, and low cost food from intensive agriculture; it will be very difficult to go back 30 years yet alone to the era before the industrial age. The 40% concept is flawed. This was obvious from the start. SEG should have the courage to challenge this flawed concept. Unachievable dysfunctional targets that are core to the recovery plan are almost certainly likely to lead to failure.** * Future drafts and the final version will include references to the evidence for these assumptions. NB. ICES reports and other reviews have challenged the effectiveness of restocking, which is at the heart of these assumptions. The current consensus is that it is more effective the closer the stocked location is to the source of the eels. Whilst it is a key feature of so many Eel Management Plans, and until the scientific evidence reaches a conclusion, this standard will assume that it is effective. **Where is the evidence on which to build this consensus or is this the emotional narrative of a post truth world? The eel is a panmixic species that arrives on ocean currents. There is no evidence to suggest that the distribution of the glass eels is anything but random. This idea flies in the face of what SEG is trying to do in collecting glass eels from river basins where there is a surplus and translocating them to areas of undersupply. So for the Severn do we just translocate in the Severn basin???** **This idea is already distorting the market in France. Ironically we are one of the nearest to the European stocking market what is going to happen to the glass eels sourced from Spain and Southern**	

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		France . This idea if left unchecked has huge potential to distort the market. **10.2 Components** The eel sector is composed of many parts, starting with fishing, through transport, holding, and farming to restocking or retail supply to the consumer. This standard is designed for each part of the supply chain to show that is achieving the highest standards and is acting responsibly and sustainably, contributing towards net benefit for the eel. The Standard is divided into the following components: Component 1: Core requirements: ○ Commitment to legality and sustainability ○ Trading in sustainably sourced eel ○ Traceability ○ Biosecurity **and Welfare** Component 2: Glass eel fishing **Welfare will continue to play an important part in the management of vertebrates**. Illegal trade and unsustainable practices appears to have increased in recent years as supply has diminished with reduced stocks, competition has increased and, whilst export out of the EU has been banned, demand from Asia has encouraged an illegal market (trafficking). **We have to be realistic. This is the legislation of unintended consequences. The inability to implement the legislation has created an illegal parallel economy that is much stronger than the legal local economy.** SEG is clear that the road map for recovery of the European eel population, as set out in the EU Regulation, cannot be followed unless all commercial activity is carried out in full compliance with the law and in full transparency. **The EU regulation does not have sufficient flexibility to alter management objectives in order to respond to the changing political and socio-economic environment** SEG also condemns some activities which, while not illegal, are not in the interest of recovery of the European eel population. The assessor should evaluate the full range of activities of the organisation which relate to eels. Activities should be judged on a case-by-case basis, but activities such as involvement with unregulated European eel fisheries outside the geographical scope of the EU Regulation (eg. in North Africa), except for purposes relating to conservation, would be considered by SEG as	

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		unsustainable**. Does this mean that organisations in North Africa exporting glass eels and farming eels for export to Asia cannot be sustainable?** By encouraging a legal and sustainable market via the SEG Standard, illegal and unsustainable practices will be discouraged and phased out. **The number of farms wishing to purchase SES glasseels is decreasing not increasing.** • The illegal trade (measured as the unaccountable reported catch in Europe) reduces by 10% per year over the next 10 years. In 10 years (2027) the level of illegal trade has reduced from 40% of the total catch to less than 5%. **At the moment I cannot see that there are any incentives that will reduce the illegal exports. I do not think that SEG has really grasped the pervasive nature of the black market. There is now a strong and well developed network for illegal exports, there is no practical system to monitor the illegal movements or to identify shipments at Border Inspection Posts. Unfortunately too little too late. What is certain is that this illegal trade is extensive and there is an expectation from the fishing sector that the wholesalers should support it. There is an expectation that cash should be paid for unrecorded transactions. This is one of the first questions that is asked when we are negotiating with fishermen. This illegal process generates a significant cash economy which is self-perpetuating. The fishermen justify their actions because in their opinion the regulatory process in not rational and the quotas are too small and are not sufficient to support the crews on their boats. The outcome is that 200-300% of quota is fished.** **While there is demand from Asia the CITES restrictions will continue to create the margin. As the supply is restricted the price increases. As with any market the people involved in it will be compensated with a price that is compatible with the effort and the risk. This is a positive feedback to support the illegal trade. Random spot-checks might be a deterrent for the small operator however for the professional criminal losing 10% of your consignments during the season is not going to make the operation non-profitable. While the illegal trade is financially viable it is unstoppable. Encouraging a sustainable market is not sufficient on its own to combat this illegal trade.** **The only reason the illegal exports have stopped in the UK is because there is insufficient margin for some to operate. SEG**	

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		should continue to bear in mind any amount of legislation and regulatory activity will not control illegal exports if there is an economic return the participants. At the moment everyone participating in this trade wins from the fishermen to the end user. **To complicate matters further while it is possible to measure the unaccountable reported catch it is not possible to measure the unaccountable unaccounted catch. If you cannot identify or measure this activity how can illegal activity be managed from 40% + to >5%.** **Target expectations need to be realistic. 10 year programs are impossible to forecast. 2-5 year forecasts would be more practical.** Good record keeping that can be audited is essential to be able to provide the evidence that the claims a business makes for its products are genuine. Customers seek the assurance of the SEG standard to show that the product they are buying is what it is claimed to be, i.e. from certified sustainable sources. However, no audit system is criminal-proof and it is open to fraud; hence spot-checks and vigilance by suppliers and customers will be required to maintain the credibility and security of the standard. **One of the biggest problems is how do you monitor the glass eel fishing. 20% mortalities are still being recorded by farmers and 80% mortality was reported in Lithuania. So there are still major problems with regard to quality within the fishery. This is information from just a few shared clients. There is another tranche much larger that is unreported. The glass eel fishery is unmonitored.** ***Separation and Segregation*** Separation can be achieved through physical or temporal separation. However it is done, it must ensure that mixing will not occur. Products cannot contain any non-certified eel (all eel-based ingredients must come from an SES certified source). **For the UK all the hand net fishermen need to be certified to include those on the Lune, Ribble and Dee. How are we in the UK going to certify the 10-15 outlier hand net glass eel fishermen in the North of England? Physical and temporal separation of stock for these few fishermen presents practical problems. Do we abandon them and allow them to establish a core of non sustainable stock in the UK for illegal sales to Asia?.**	

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		Record Keeping and Documentation The key to traceability is good record-keeping. Organisations will need to be able to produce records that allow for the tracking of product throughout their ownership. They will also be required to produce 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. Note glass eels shrink during storage (they don't feed), 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. **We will try and sell by the piece not by the Kilo. The Latvians are buying by the piece.** • Auditors report a high confidence (90%+) in the quality of records of a high proportion (90%+) of those assessed • All those handling certified eel are using the SES logo to label the product and do so correctly • Reports of transgressions are handled promptly and fairly **The issue of transgressions remains unresolved for UK glass eels. This matter was dealt with in some detail at the annual meeting. It is a subject that needs to be settled and closed from my point of view. The new governance protocol is a significant step forward.** **Criterion 1.4: Biosecurity – Eel and eel products are provided with minimal risk of diseases, parasites and alien species** **Matter discussed at some length at the AGM. This will have to be a risk based assessment. Testing samples of glass eels for specific pathogens prior to shipment is not a solution to the problem. This is why Sweden has a quarantine program to support its national approach of high health status for the Agriculture and the Aquaculture sector. Evex can be found of many European countries. *Dikerogammarus* villosus is alien to some, normal to others. Is it really practical to stop the spread of Anguillicola crassus which in now distributed over most of the UK. The EA or SEG approach to this problem is not consistent. Eg. The Bristol water reservoirs that have been inaccessible to eels for many decades. Rather than surveying the stock to check the incidence**	

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		of Anguillicola crassus with a view to keeping these areas clean for the development of a pristine population of reproductive stock , migratory pathways are being opened up to allow infected stock to gain access to these areas. All suppliers have high quality, effective, bio-security and **welfare** plans There are no, or very rare, examples of a disease or alien species associated with a batch of certified eel. This is a**n unrealistic expectation as a general objective, May be achievable in some limited regions.** The fishery conducts good biosecurity measures such as the disinfection and drying of nets between each fishing trip. **What about the boats, the tanks, the transport systems. Is it relevant for activities in same river basin? It is all very difficult or impossible to enforce and manage. It involves a huge commitment of every member of staff in the organization. High levels of biosecurity can only be maintained for short times. We only run our critical program for the period we have glass eels in stock for Sweden. No longer.** There have been no instances of disease or alien species from the fishery in the past 5 years. **OK for the listed diseases with national monitoring plan but for the unlisted diseases of non-susceptible species it is not practical to implement.** **The biosecurity plans should be risk based and developed for specific organisations with specific outcomes.** **Daily mortality records should be an obligation.** • All suppliers have high quality, effective, bio-security plans • All customers provide and seek evidence of bio-security before buying • There are no, or very rare, examples of a disease or alien species associated with a batch of certified eel **Certain management and husbandry processes can eliminate certain risks. This facilitates the process of moving stock without the burden of further testing and inspection. Restocking with farmed Juveniles will eliminate spread of Dikerogammarus. This hypothesis needs to be tested but with Gammarus pulex they do not survive in the farmed environment.** An effective and documented biosecurity plan (including the washing and disinfection of equipment) is in place AND records are available showing regular monitoring of health and possible signs of	

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		stress (including the completion of periodic microscope parasite checks) AND records are maintained in relation to the name, administrator, amount, dates and reason for use of any medicines and/or chemicals used in the facility AND the use of chemicals follows legal requirements of the appropriate EU regulations and of the country concerned. **Medicine records to be no more onerous than current requirements of the medicine regulations.** Water, supplies of eel, and use of equipment are managed such that it is not possible to infect one tank or batch of eels from another. **Not quite sure what the expectations are here. If you have recirculated system then water and disease will go from one tanks to the next** The facility has the appropriate permissions to operate from the relevant licensing authority and there have been no bio-security issues in the past 5 years. The facility provides health check certificates to show batches being free of disease and alien species**. Need to be specific re scope of health checks and range of alien species.** **The risk of restocked eels introducing disease into wild populations has been assessed and is minimal. Restocking from UK has been taking place since 1907. It is low risk activity. The evidence that restocking is spreading disease is difficult to find.** **Wholesale / Retail / Processing: Hygiene Plans are followed and there are rare examples of infection. This is an incredibly complex area to try and regulate. All these facilities will have EU plant numbers. They are highly regulated by the environmental health department in the UK. Either pass or fail?** **Traceability – sale to certified buyers** 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 commands a higher price. SEG Certified buyers must sell only to legal markets so it follows, that to be sustainable, certified fisheries must only sell to certified buyers. Other mechanisms such as e-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. **Are you saying that we can only sell to SEG certified buyers? There are very limited outlets for SEG glass eels.** **Survival & eating glass eels**	

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		It is obviously important to maximise welfare and survival for glass eels to then maximise their net benefit. There will inevitably be some mortalities and those can be kept, frozen and supplied for an albeit diminishing market in earing glass eels. In some places in Europe there are local traditions based on eating glass eels, e.g. it is a Christmas tradition in parts of Spain. However, the reduction in glass eel catches has led to substitutes being developed for these traditions. SEG does not support the capture of glass eels for direct consumption as we believe it is poor use of the stock and does not support net benefit, but we do support the use of the small proportion of glass eels that don't survive fishing, holding and transportation **Does this mean a SEG glass eels supplier cannot sell to the consumption market?** **Does this mean that a Spanish processor cannot become SEG certified?** **The Spanish market is the corner stone of the sector. Without the Spanish consumption sector the glass eel trade would collapse. Who would purchase the glass eels early in the season?** **We tried in 2014 not to supply the Spanish Sector when there was a surplus of glass eels. This involved closing the business. As a result the fishermen found other outlets and from that point on we have been wrestling with the illegal trade.** ***Unit of fishery*** Fisheries can be assessed at a range of size of 'units', from individual fishermen, through groups, co-operatives, to a whole estuary. Smaller units, eg. a single fisherman, brings individual responsibility but greater cost (of assessment). Larger units bring economies of scale, and the whole group of fishermen must trust each other to operate according to the required standards and regulations. Where assessment for individuals is prohibitively expensive, we will seek to facilitate collaboration to bring groups together to conduct multiple single assessments to make it more affordable. **How are the individual fishermen across the whole of the Bristol Channel going to be certified? Severn, Avon, Wye, Usk, Tone, Brue, Parrett, Tor, Torridge and all the other little fresh water outlets that run into the Bristol channel.**	

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		Then we have the few fishermen on the Lune, Ribble, Dee etc in the North, **The artisan method of hand fishing in the UK or France is the most environmentally sensitive method of fishing in Europe. This should be recognized. At the moment SEG is producing the illusion that the standard achieved in Spain and France using boats is the same as the hand fishing. For the future it is important to recognize that the quality, the mortality and by catch of hand net fishing is completely different from trawled fish.** **With exception of the Parrett where traditional fishing has been abandoned it is impossible to kill, injure the glass eels or to have any significant by catch using the traditional hand net as set out in the regulations across the UK.** **On the Parrett the fishery is active, nets are placed in the tidal river and the glass eels are swept into the net along with the detritus, shrimps and other life forms. The nets need to be cleaned and emptied every few minutes. Everywhere else in the UK the fishing is passive and relies on the glass eels swimming into the net against an ebb tide as they migrate upstream. The glass eels are under no pressure, the nets can be left in the river for an infinite time with no deleterious impact and there is virtually no by catch.** **The traditional handset is the most environmentally sensitive method of fishing. This method of fishing should be should automatically qualify as a sustainable method. By all means measure a subset of this method of fishing for those people using the float and rope system but for those using the traditional net in the Parrett and elsewhere just measure one other subset. Measuring subsets in another 10 locations in the UK is just not economically viable.** **Fishery data** Good fishery data are important to enable effective fisheries management by local, national and European fishing authorities. **Nothing mentioned about sea horse catch in French fishery** ***Mortality rates in glass eel fishery and in storage*** Mortality from fishing can become apparent during the period of glass eel storage, rather than in the fishery itself. Since the glass eel catch over several days tends to be amalgamated in one tank in the holding facility, it is not possible to separate out a time period to allocate this mortality to the fishery vs. the holding facility – eg. by saying that mortality during the first 24 hours is	

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		due to the fishery while after that it is due to conditions during holding. Thus, the maximum mortality rate for the fishery covers the whole time period that the glass eels are in the holding facility. The Standard for glass eel buyers (Component 4 of the Standard) also includes a mean mortality requirement, which is lower than the maximum mortality requirement for the fishery, although covering the same time period. This arises because the glass eel fishery component (Component 2) requires a maximum permissible rate for each batch, while the glass eel storage component (Component 4) sets a maximum for the average rate across the whole season. Note that these two rates are not additive – both must be achieved. Note that the setting and calculation of mortality rates has caused difficulties for each clients and assessors. Suggestions for solutions for this standard are welcomed. It will be most helpful to separate the action of fishing and the action of fish storage. **In France it is highly likely that any observed fishing mortality at the point of catch would be discarded or separated at the time of fishing. In the UK with traditional hand nets we do not have fishing mortality and there are no discards. . Any mortality is due to poor transport technique from river bank to collector. Poor technique is inadequate equipment or too long a time to transport the glass eels.. A bucket is OK for small catches when temperatures are low. Trays are the preferred equipment for larger catches and higher temperature. There is no market in the UK for dead glass eels as in Spain. We do not pay for dead glass eels so this is self-regulating problem. There is a powerful incentive to keep the glass eels alive. Trays are not used in France, However temperatures are lower during French season so the plastic skips work. However not ideal for transport and would not work in the UK. For UK mortality is collective mortality with no discards over whole period of storage.** **There should be no significant mortality as a result of storage in the first two weeks in a well-designed glass eel storage facility. Just a few pieces per million each day. Therefore any mortality is due to fishing.** **What is the shrinkage data in France? Assume some Mass Balance figures are available. Best practice 5-7% is possible in UK. We know that 15% in France is possible but likely to be much greater.** ***Design of net for glass eel fishing***	

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		The crucial element in the design of fishing gear for glass eels is that it does not allow the eels to become trapped in the mesh – this leads to mechanical injuries which eventually leads to mortality even if such injuries are not immediately visible. For the cod end and for hand-held nets, this is generally solved by ensuring that the mesh size is small enough so that no part of the glass eel fits through. For the rest of a towed net, the mesh size can either be small enough as above, or large enough that glass eels can pass through without injury (in practice, most swim away from the mesh, ensuring that they remain in the net). For the cod end, we have been prescriptive about mesh size, but for the remainder of the net, fishermen may find their own solutions, as long as they fulfil the criterion of not causing injury or abrasion. **For the traditional hand net you need an open mesh because the only way you will catch the glass eels is by having a free flow of water through the net. This attracts the glass eels into the net and holds them in the net. If there is not a free flow then glass eels sense this is an obstruction and swim around the net. Mesh will be at least 2 mm. As the net is on a fixed frame the mesh does not change shape. For a French trawl net you need an even greater open mesh to allow the efficient passage of water and reduce clogging. When stretched the meshes form a narrow diamond shape and change from a free flowing format to just allowing the glass eels to swim through damaged or trapping them as in photos attached. (note the individual glass eels trapped in the mesh).** ***By-catch in glass eel fisheries*** In order to evaluate impacts of the fishery on by-catch over a fishing season, the assessor will require evidence which is likely to include: - Main species represented in the by-catch - A quantitative or qualitative evaluation of the quantity of each species caught over a given period (eg. per tow or dip, per night) - The measured or likely population status of these species in the area of the fishery (noting that rare, endangered or protected species are dealt with separately) **Sea Horses** - Protocols or methods for dealing with by-catch - The actual or likely discard survival 'Negligible impacts' are defined as a low rate of by-catch plus a low rate of discard injury or mortality plus by-catch only from species which are abundant in the area. 'Low-level' impacts are where two	

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		of these criteria are met. In 'severe' impacts, none of the criteria may be met in full. Where only one criterion is met in full, the assessor shall use their judgement in deciding the outcome. Infrequent but large catches of gelatinous zooplankton in glass eel nets during bloom periods may be excluded from these criteria. **These are not infrequent. Need pressure washer to disperse through mesh.** **Parrett fishery has by catch of Gammarus pulex. Could be more than 10%. Traditional hand net fishery minimal or zero by catch and no discards.** ***Mortality during first week in culture*** It was agreed between glass eel buyers and eel farmers represented on the stakeholder group that mortality during the first week in the eel culture facility is related to handling during fishing, holding and/or transport, rather than to factors under the eel farmer's control. This period therefore may be left out of calculations for mortality rates during culture. **This is generally the case but not in every case. There are still farmers causing unnecessary mortalities due to poor management. Every case of mortality needs investigation. Perhaps SEG should be arbiter of these mortalities that involve members.** ***Quotas and Sustainable Yield*** Given the size, range and diversity of the stock of the European Eel, it is not yet possible to properly set quotas or a Maximum Sustainable Yield. We hope that stock and catch **More attention needs to be given to stock assessments. There is no work being done to evolve new methods of stock assessments.** The Eel Management Plan is approved and there are good data which shows with reasonable confidence that the EU silver eel 40% escapement target is being achieved in the eel management district. **This is a target that is sheer fantasy. It is a proposition that is extremely difficult to measure with any accuracy. Fine keep it as an objective to work towards but accept it what it really is. If 40% silver eel escapement is being achieved then the rules regarding exports and sales need to be relaxed.** Fishers are licensed and provide catch and effort data AND data on catch and effort are collected and analysed regularly by the fishery authority (at least annually at the end of the season), AND data are considered to be accurate, useful for statistical purposes and	

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		provide a comprehensive picture of the glass eel fishery under assessment AND fishermen only use legal gear AND enforcement is in place throughout the fishing area with no evidence of systematic non-compliance. **How do you measure effort in a passive fishery using traditional hand nets?** ***Restocking requirements under the EU Regulation*** The EU Regulation requires that 60% of glass eels from fisheries should be reserved for restocking in order to improve escapement rates. **So far an elusive target as there are not the funds to support this target. The French catching period is not at the correct time of year. Peak production in France is at the end of January when the whole of Northern Europe is still frozen!** Mortality rate over the season is less than 2% on average. Mortality rate over the season is less than or equal to 5% on average but greater than or equal to 2% **There should be no mortality due to storage in the first 2 weeks so total allowance for mortality from the fishermen is 4+2=6%?. Seems a bit generous to me when we are already achieving 1.6% inclusive of our minimal by-catch.** 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) AND water quality management procedures are in place including regular monitoring of relevant parameters which shows that water quality is always high and stable AND water quality monitoring is linked to an alarm-based system in the event of a sudden drop in water quality AND 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. **Not economically viable and unnecessary to have electronic quality system linked to alarm. Water pressure. Air pressure and levels OK. Glass eel facility is run on air not oxygen so as long as you have necessary air pressure then Oxygen level is OK. Would be different if running a farm with oxygen.** Transport is carefully planned to minimise travel time AND packing is done in a way that minimises handling, time and stress AND eels are kept cool and wet with an adequate supply of oxygen	

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		1. 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. **2. Animals that are injured or that present physiological weaknesses or pathological processes shall not be considered fit for transport and in particular if:** The buyer can provide documented evidence that they have sold at least the required target percentage of its glass eels from the latest season for the primary purpose of conservation / escapement. **Reserve or sold. *Restocking requirements under the EU Regulation*** **The EU Regulation requires that 60% of glass eels from fisheries should be reserved for restocking in order to improve escapement rates. We can reserve but we cannot sell 60%** **Restocking as per article 7 in 1100/2007 in an official plan or some other plan. I do not think our Llangorse project would qualify.** **8. Restocking shall be deemed to be a conservation measure for the purposes of Article 38(2) of Regulation (EC) No 1198/2006, provided that:** **— it is part of an Eel Management Plan established in accordance with Article 2,** **— it concerns eels less than 20 cm in length, and** **— it contributes to the achievement of the 40 % target level of escapement as referred to in Article 2(4).** **How will the sales to the Netherlands be treated. The current practice from France is to sell 50:50 restocking: consumption fish to the farms.** Grading is completed in an efficient manner AND slaughter is completed by a method that provides an instant death or renders them insensible to pain AND procedures are in place to ensure transportation provides suitable conditions for fish welfare. **You might find the following links useful** **http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2009.1014/epdf** **http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2004.44/epdf** **http://onlinelibrary.wiley.com/doi/10.2903/j.efsa.2008.809/epdf** Restocking of eels has been taking place for over 100 years – Glass eels from the Severn in the UK were first stocked into the German Rhine in 1908. It has been an accepted management technique since and has been an integral part of the Eel Management Plans of several EU countries. However, the scientific evidence on its	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		effectiveness is mixed, with as many studies reporting the negative aspects of stocking to those reporting benefits. The current consensus is that stocking is most effective when done as close as possible to where the eels were caught. This has the added benefit of reducing the introduction of disease, parasites and alien species. We (SEG and fisheries authorities around Europe), will continue to review the evidence to ensure that Eel Management Plans and this standard are consistent with the latest science. The current consensus is that stocking is most effective when done as close as possible to where the eels were caught. This has the added benefit of reducing the introduction of disease, parasites and alien species. **Where is the evidence? Who is propagating this narrative?**	
Samuel Stone **Marine Conservation Society** Samuel.stone @mcsuk.org	Title Page 6 Page 8	MCS believes the standard should not be called 'Sustainable' as it is recognised that this is not something achievable for decades for the eel itself. Additionally, with regards to the farmed component, no existing farmed production standards refer to themselves as 'sustainable' due to the inability for 100% of feed to come from certified sustainable fisheries and other difficulties in defining sustainability for fish farming (eg regional carrying capacity). 'Eel recovery standard' or 'responsible eel standard' are preferred alternatives. MCS feels these alternatives would better reflect the aim of the standard, '…to promote and ensure the most responsible methods of fishing, transport and farming, such that net benefit can be demonstrated and the objectives of the EU Eel Recovery Plan and full sustainability will be achieved more quickly' MCS believes the lower level definition should only apply if implementation of the approved MP was deemed credible and time bound. **Definition 1**: Using 'net benefit' is a misleading here as in our opinion, the term implies Definition 2. Otherwise under definition 1, the standard could see 1 less eel caught to essentially be of 'net benefit' compared with non-certified fisheries. **Definition 2, assumptions:** natural mortality would be very high, so whilst only 400kg may be needed to populate the catchment in the example provided, much more than this would be needed to account for this high natural mortality and migration barriers during	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		their journey and life upstream and this would need to be reflected in the total catch permitted in the area. Of the 400kg of glass eel, what weight or number can be expected to escape once matured? **Definition 2, assumptions:** 'The majority (at least 60%) should go for restocking'. This needs to be much clearer and definitive in order to demonstrate net benefit. Ie.'A minimum of 60% **is** used for restocking…'. Ideally this proportion would be higher. As the years and the numbers of glass eels appearing are highly variable, it would be good to see local eel quota assessed on a case by case basis after sampling at the start of the season. Then for each season, the weight of eels that is left for re-stocking (min 60% after allowing for sufficient numbers to migrate upstream) and then for harvest or farming could be calculated. **Definition 2** The assumptions provided are very specific ie. To areas where the eel migration is very high and to areas where the upstream migration is completely blocked. Does this then mean that this definition (of a sustainable eel fishery) can only apply in these specific situations?	
	Page 12	**Indicators**: Is being a 'member of SEG' the same as being certified by SEG?	
	Page 13	**Issues:** Does the retailer (and other parts of the supply chain) need Chain of Custody to ensure traceability?	
	Page 21	**Benefits**: Does this mean that glass eels are ONLY 'sustainably' fished in places where a greater proportion of eels are being restocked than retained for consumption or farming? Ie 'Net benefit' **2.1 responsible indicators** Implementation of the management plan should have some time-bound elements – otherwise a MS could be doing very little and very slowly, yet still technically implementing some of the eel management plan; and We feel that 'Eel fishing is in a place accepted by the fishery authority as providing net benefit to the eel stock' needs further description. Is this to mean that the local authority would need to	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		make an evaluation of the proportion of glass eels for restocking vs consumption + farming?	
		Component 3 - Benefits	
	Page 23	Regarding 'net benefit' - Any mortality to yellow and silver eels would need (if not already specified) to be included in estimates of total escapement for a region to ensure the 40% escapement targets are fully met.	
		Eel Farming	
	Page 27	Mortality – the calculation is clear and logical but there is nothing in standard requiring a log of cause of mortality and associated breakdown of figures. This is essential to enable driving improvements, as the major causes can be identified and remediated. Also a figure of 4.4% per year is given, however this reads as a target rather than a cap and I would expect to see a commitment to reduce this number over time particularly if the comment above is acted upon.	
	Page 28	**Feed**. It is best practice in standard development not to refer to just one organisation (such as MSC). This is particularly pertinent for wo reasons here – MSC is the ONLY standard that certifies a fishery as sustainable and incorporates all of your requirements, no other standard currently does so. IFFO RS is NOT an eco-label and only certifies a Feed Mill as producing responsible feed. If referring to MSC , we suggest you say " fishery must be certified as sustainable using a 3rd party audited standard that uses a low trophic pathway" **Humane Slaughter** See Farm Animal Welfare Committee https://www.gov.uk/government/groups/farm-animal-welfare-committee-fawc#assessment-of-farm-animal-welfare---five-freedoms-and-a-life-worth-living for guidelines and advice here for appropriate method of humane eel slaughter.	
	Page 29	**Criterion 5.1: The total mortality rate during the culture process is low** – see comment above **Criterion 5.2: The fish meal/oil ingredients in the feed come from a sustainable source** – see comment above IFFO RS does NOT certify	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		fisheries and is NOT a sustainability standard. It is B2B certification of a feed mill for RESPONSIBLE production . This criterion has to refer to MSC certified for sustainable and IFFO RS certified for responsible . **Criterion 5.6: Grading, slaughter and transportation are carried out with respect to welfare** - there is only one acceptable level here **5.7.** Whilst 10% is a good start, a greater % would be better. If the target is '60% by number of eels from fish farms is provided for restocking', then shouldn't this value be closer to 60%? **6.1 Sustainable & responsible indicators** Sustainable - It is felt that 40% escapement should be being achieved and the 'Or' option removed here. ie removal of 'OR the restocking is part of a management initiative that should with reasonable confidence lead to the 40% escapement target being achieved in the future.'. This 'Or' option seems like it would be more appropriate in the 'Responsible' criteria. It also seems the 'responsible' criteria should include some reference to the kind of evidence or targets that would be sufficient, otherwise there is quite a lot of ambiguity here. **To decide if a 'Sustainable' or 'Responsible' award is made:** We believe only 'Organisations only with all Sustainable indicator passes will achieve a Sustainable level certificate award' should receive the highest award, otherwise there is little incentive for organisations with a majority of 'sustainable' passes to make further improvements. Unless the award is based on improvements needing to be made over a specific period of time. Similar to how MSC conditions need to be addressed for a score between 60-80. As noted earlier though, MCS believes an alternative name for the standard (eg. eel recovery or responsible eel standard) would be more appropriate given the Critically Endangered status of the eel and what the standard has set out to achieve.	
Ingvild Harkes **WWF Netherlands** iharkes@wwf.nl	General comments	- The approach is targeted towards sustainable management of the eel stock rather than recovery – there is no acknowledgement of critical status of the stock (IUCN Red List). - The quantified criteria for sustainability are missing – both in terms of the stock as in terms of a 'sustainable fishery' and 'sustainable source'?	

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		- It is assumed that sustainable use is feasible at this point and that continued fishery and consumption are required to keep the fisheries sector involved in management – economic considerations rather than biological/ecological arguments underlie the approach. - The approach lacks a scientific basis and approach – key references are missing. - There is no quantification and target stock – current recovery targets as set in the eel regulation are challenged even though they are science based. - The approach lacks a strong quantified evaluation procedure – what are the indicators and methodology to measure the effect of the approach? - The approach is based on, but does not aim to obtain MSC/ASC certification – why not use an existing, widely accepted, sustainability label for fisheries and aquaculture?	
	5	The objective of the proposed approach is not *recovery*, based on a general threat analysis and strategies that address all factors that negatively influence the stock (including fishing for consumption), but *sustainable management*, with a maximised contribution of the sector and consumers. The fact that units can already obtain a sustainability certificate when abiding to certain standards, implies that the stock is already above safe biological limits, which it is not (ICES 2016). The approach focuses merely on a role for the eel fisheries sector and restocking to balance mortality, an approach that may have some positive impact, but will not likely lead to recovery of the stock (Dekker and Beaulaton 2015). The driver for the development of the standard therefore seems merely focused on human needs (economic), rather than recovery of the eel stock (ecological) to pristine levels as these targets set in the European Eel regulation are contested further down the document. ICES advice (2016a) is not taken as the starting point. The vision envisages a healthy stock, but the approach does not present a target for the required size of the stock and at what point this is above safe biological levels so that sustainable use is possible. This is acknowledged in the first paragraph of page 6, but with no references and with a role for the eel sector and ongoing fishery, which, from a scientific or conservation point of view is not necessarily a starting point as the eel fishery is still a main factor to eel mortality.	

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		A net benefit can be anything above the current exploitation rate and mortality, and is not in line with the recovery target set in the EU Eel Regulation. Collection of data is positive. The design is targeted towards sustainable use and operations, however, the stock is critically endangered (IUCN Red List) which requires restoration, before sustainable use can be designed. The current status of the stock is not acknowledged in the standard, nor is the minimal effect of the current management efforts (ICES 2016b). There is no scientific basis presented to support the approach presented in the document. To base the approach on a broad and generic definition focused on sustainable resource use by Brundtland, is foregoing all the detailed and available science on eel biology and advice to reach recovery that is present. The Brundtland quote underlies the Convention on Biodiversity which also supports the precautionary approach, which, particularly in the case of a critically endangered stock, should be the point of departure.	
	6	The definition of a sustainable eel fishery on a EU level is 40% escapement overall, not only in particular catchment areas. The areas that can support an escapement of 40% or more need to be managed carefully as to compensate for areas with a (much) lower escapement. Management of eel should be looked at on the level of the overall stock, not regionally.	
	7	Restocking, data collection and the opening up of migration routes are positive measures that would help towards recovery of the eel stock. To limit other anthropogenic influences (fishing, consumption) may also be required for stock recovery – could these options be considered? Challenging the escapement target will not help the process of recovery, particularly as there is no scientific backing of these statements.	
	8	A net benefit is not defined and could include any number/quantity over the current exploitation rate and mortality.	
	10	Why not make use of existing certification schemes (MSC, ASC) if	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		the SEG feels that eel fishing can be sustainable?	
	11	The methodology lacks criteria, quantifications and an evaluation process.	
	12 – 33	The standard and criteria have no overall, quantifiable objectives. Presented are merely principles (a code of conduct).	
	34 – 40	The rules and procedures do not include a possibility for stakeholder input or objections. The standards are all set by the SEG and the parties it represents.	
	41	What is the definition of a healthy aquatic ecosystem?	
	42	WWF and partners have invested in the development of an independent sustainability label (MSC, ASC) that has been tried and tested for 20 years now and has international acclaim. Whilst it may not be perfect, it is the best available. If the sector and SEG believe that eel fishing can be sustainable, why not use the existing standards? **References** • Dekker, W. and Beaulaton, L. (2015). Climbing back up what slippery slope? Dynamics of the European eel stock and its management in historical perspective. ICES Journal of Marine Science, August 2015: 1-9. • ICES (2016a) ICES Advice on fishing opportunities, catch, and effort, Northeast Atlantic. Published 28 October 2016. • ICES (2016b) Report of the Joint EIFAAC/ICES/GFCM Working Group on Eel (WGEEL), 24 November–2 December 2015, Antalya, Turkey. ICES CM 2015/ACOM:18. 130 pp.	
Richard Fordham **Scandinavian Silver Eel** richard@silvereel.se	p6 line 6 P9 L17	Surely the level of survival in glass eel fisheries is much lower than 5-10% - e.g Brian Knights figure of less than 1% in the Severn? "the current consensus…" The restocking programme in Sweden is a vital part of the Eel Management Plan. The results show that the restocked eels grow and survive as well as the naturally recruited eels, and both the naturally recruited and restocked silver eels begin their migration using the same route into the Atlantic. Figures show that around 90% of all eels in freshwater come from restocking. The consensus here is that they acclimatise extremely	

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		well and are a vital part of the Eel Management Plan.	
	p11 line 24	I would choose a level with a majority of Sustainable indicator passes.	
	p15 1.3.3	We grade our stock on average every 6-8 weeks into 12 different sizes and we normally hold about 4 different year classes (0,3g to 2kg). It is impossible to be able to keep all the four years separate throughout the farming cycle. The only way is if the eel farm is running below full capacity and therefore able to spread the eels out, but is this uneconomic. It is possible for us to keep our intakes separate until about 10g. Normally we have one import a year but this problem would be exacerbated if we had several intakes of glass eels a year. I think it would be possible for us to keep certified and non-certified eels apart if that became necessary.	
	p17 line 4, 15	Eel farms are normally recirculated and therefore impossible to guarantee that one batch will (certainly not one tank) not infect another throughout the farming cycle.	
	p23 Component 3	Might include criteria for restocking, trap and transport, maintaining traditions and fishing techniques.	
	p27 Component 5	What is the total stock? In our farm the stock fluctuates month by month depending on glass eel intakes, restocking, mortality, grading and sales of consumption eels. Is it the average stock during the year?	
	p27 line 37	No problem with the statement "that the source is sustainable" for the dry feeds. A very small proportion of the feed is locally sourced uncertified high-quality cod roe which has created no disease problems. Therefore, we are reluctant to change to a certified source. Is this a problem?	
	p28	"eels used for restocking are not graded out" This has been possible when providing small eels (<1g) for restocking. But it is **no**t possible when supplying larger restocking eels. Grading is necessary for larger eels to satisfy customers wishes, prevent cannibalism and maintain feed conversions.	
	p30 L24	"the current consensus…." Same comments as above	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	p36 L20	I would choose "Organisations with majority of Sustainable indicator passes"	
Peter Neusinger **Eeline Aquatrading**	Component 4. Component 8	Glass eel holding facilities should be registered Aquaculture Production Businesses (APBs) 4.4 Back-up systems (generator/oxygen) essential. 4.5 5 yearly transport authorisations (re animal welfare in transport) should be required by traders. CEFAS require transport Logs be carried in vehicles. 7 years since the eel export ban took effect. 7 years of good work and progress by SEG, DUPAN, companies in the sector and science and 'positive' conservationists. For those companies outside the sector: some alternative measures have been funded and put in place. BUT 7 years during which entrainment has continued virtually unchecked at many locations, further damaging the already depleted numbers of returning stock. This stock is the minute percentage of elvers that have survived to make the return journey. 7 years when, if nothing else, companies should have been monitoring losses, these the potential brood stock and consequently the spawning potential. At present we can only estimate the loss by extrapolating the data from the few sites that have been logged. The EMPs and sustainable certification measures anticipate tangible/gradual eel recovery presently expected of measures taken by the industry. If this happens then NDFs may be forthcoming. Beyond the sector's control is the loss of a huge chunk of brood stock caused by thousands of points of entrainment which could have a huge bearing on the rate of recovery and the perceived effect of the sector's measures. Ideally the two would go hand in hand, but one without the other…? Perhaps the day will come when power companies will want to certify environmentally friendly sites.	
Björn Kullmann **University of Hamburg** bjoern.kullmann@uni-hamburg.de	8	'For example, in the Parrett in Somerset, UK, the glass eel run is estimated to have been 1 – 5 tonnes (3M – 15M glass eels) per year in recent years. Fisheries scientists have calculated the amount required to populate the Parrett catchment to be 400kg (1.2M glass eels).'	

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		Please provide the reference. I can't find it in 'peer-reviewed' literature. Ecosystem modelling is often highly imprecise and predicted/modelled numbers should be taken with caution since basic assumptions might be wrong or inaccurate.	
	9	'Overall, the use of surplus glass eels enhances and provides net benefit […]' pretends that someone knows what that means. In fact, there is hardly any information about the carrying capacity of river catchments. (What is enough?) The SEG should argue carefully and provide a lot of references here since these surplus eels are one of the (fairly weak) standing legs of the eel management.	
	9	'Whilst it is a key feature of so many Eel Management Plans, and until the scientific evidence reaches a conclusion, <u>this standard will assume that it is effective</u>.' Why is it necessary to assume effectiveness if there is no evidence for that? I agree that stocking is a key feature of most management plans. So indeed, the SEG standard must define criteria for a certification for suppliers of stocking material. But it appears that SEG wants to establish a standard to keep a business alive rather than contributing to the recovery.	
	15	'Issues'. The very important example of the ***anguillid herpesvirus 1*** (*Herpesvirus anguillae*) is missing here as it is of outstanding importance in eel aquaculture. Farmers often deliberately infect the young eels to prevent an uncontrolled outbreak in later stages. This strongly affects stocking measures (see Kullmann et al., 2017 in J Fish diseases doi:10.1111/jfd.12637). **Certified eel farmers/traders should not be allowed to buy and resell infected eels.** This, from my point of view, has been disregarded in the past but **<u>MUST</u>** be part of a credible SEG standard. A certified eel trader must be responsible for the health status of the eels sold for stocking purposes	
	17	**<u>Delete</u>** '[…] OR eels from an area where a disease is endemic in the wild population are being restocked into an area with similar prevalence of the same disease(s).' This provides a 'gap' to stock diseased eels because most eel diseases are widespread (I assume because biosecurity hasn't been	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		a subject of interest; see comment above). In Germany, I regularly hear the argument that stocking of diseased eels (with viruses and/or parasites) is even beneficial because those eels are more robust. Sustainability *ad absurdum* but common practice.	
Zoological Society of London	P2. 'Sustainable'	We are not wholly convinced that there can ever be a fishery that can be guaranteed sustainable in the near future, such are the complexities of the threats, and dearth of data relating to key metrics that would be required to prove sustainability. Further, information on these needs to be collected at the level of the river each fishery is occurring on to be able to prove sustainability and until that happens, it seems impossible to claim any eel product is sustainable. We think SEG has done an excellent job in relation to improving traceability and welfare standards within the industry but until some of these data gaps relation to stock metrics and the impact of threats are filled on a fishery by fishery case, the idea of a sustainable eel product does not seem possible.	
	P4 'sustainable recovery'	Nowhere in this document, the ToRs or the ToC is this term defined, making it meaningless. It needs defining or the wording changed.	
	P4. '*maximise* the contribution…	By having a two tier system in place, this is not the correct wording. *Increase*?	
	P5 Encourage high and responsible standards	'Discourage' and 'Encourage' seem quite passive words. If the standard is to be viewed as robust, should it not be non-negotiable?	
	P5. Ranching	Ranching is not defined in the context of the standard – I would suggest it is.	
	P5 Aquaculture	Aquaculture, and presumably ranching of eel (see above regarding a definition), is exclusively fishing from the wild to grow on, so although there should be minimum welfare standards applied to 'aquaculture' facilities and transportation. In terms of sustainability, it's about how wild stock s are managed and the impact of fishing on them. Have SEG considered whether two separate standards are needed? One for 'working towards sustainability' another for 'good ethical	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		and welfare practices'. Both could be underpinned by traceability	
	P5 Definition Sustainability	This is not their definition of sustainability, but sustainable development - it'd be good to be clear on this.	
	P6 Sustainability diagram	Is this from the Bruntland report? If so, it should be referenced, if not, it should be made clear that this is SEG's interpretation of the Bruntland definition of sustainability.	
	'We recognise that that the term 'sustainable' cannot be truly applied to the European Eel until …	This should be an opening statement not slipped in on page six. SEG can then give its definition of sustainability within the context of the standard. It should it be made clear that the standard is being given to those that are 'working towards sustainability' rather than providing a 'sustainable' product. If one of the aims of the standard is to 'provide confidence to retailers and consumers who wish to buy responsibly' there needs to be consistency. Also, what is being done to ensure that consumers/restaurants are being done to be made aware of this; having quizzed a few restaurants that are selling eel, they are under the impression it is 'sustainable'.	
	'We believe this recovery …'	However, we could do none or all of these things and still see complete population loss or recovery driven by oceanic/climate driven factors.	
	'Most importantly…'	What evidence is there that this is the most important intervention? If this is SEG's opinion, it should be made clear that this is the case.	
	'These interventions at a European scale …'	Again, it should be made clear that this is SEG's opinion. Further, it should be worth considering that statements like this without support could continue to result in SEG continuing to be framed as an organization primarily supporting commercial fishing interest to safeguard and promote there industry rather than the science based conservation organization with species conservation as its focus.	
	Net Benefit	For eel stocks?	
	EU Eel Recovery Plan	Better call it the regulation?	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	'Full' sustainability	It is quite confusing for the reader talking about sustainability and full sustainability, and this makes it sound like partial sustainability is possible. Maybe 'sustainability across the species range.'?	
	EMPs were introduced	Not all were approved in this year.	
	Two definitions	But above you have a single definition for sustainability, so how can there be shades of this? It means that definition two is inappropriate and should be removed if the goal is to achieve sustainable eel populations as quickly as possible, which is referred to as a SEG principle above. If we go back to the Regulation, the 40% figure is a spawner stock output to be met in order not to be failing and further measures required. The 40% is not merely a long-term aspirational objective. If the escapement target is being achieved there is a case for fishing in a sustainable ethical manner. If not, fishing is an anthropogenic impact which should be eliminated until the target can be achieved. We recognise that there are also other anthropogenic pressures that are impacting escapement but the spirit of the regulation is that any anthropogenic activity which prevents the 40% escapement being achieved should be reduced to a level so that this figure is met.	
	EMP is approved	Just by having an EMP in place does not mean that the eel fishery is sustainable. In addition to the above, what if the EMP identifies fishing as the biggest pressure on eel stock - would a fishery working within it be awarded the standard?	
	Water Framework Directive	This is the first mention of this legislation – would be good to put it in the context of the eel. Also, there needs to be some support for the statement relating to progress being poor, ideally references and data.	
	Financial Crisis	How do we know this? Please reference.	
	P7: Challenge to 40% target	By whom? To be credible, any statements like this need to be supported by evidence.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	Some make the observations …	Who? If it's just an opinion that happens to support SEG's mandate then it looks like you are cherry-picking – again, these statements need support. Further, it totally undermines the assertion that a fishery can be defined as sustainable with any certainty.	
	10% of what it should be	Who has defined what 'it should be'? And where are these figures from? This does not align with any of the large-scale barrier or habitat assessments in the literature. Is this referring to loss of wetland habitat from a historic baseline? If so, when, or does it consider loss of habitat from barriers, or both? Again, statements like this need support/evidence, or it has to be made clear it's SEGS's opinion.	
	However, it makes sense in this circumstance …	This is speculation. How do you know they will die? And even if they do, they will potentially provide food for other species providing a net benefit for the system as a whole. In your ToC it highlights the importance of 'Healthy Water Habitat/Aquatic Ecosystems', and so is there evidence that fishing them out is a net benefit compared to leaving them in there? Further, we know European eel can spend some or all of their growth life phase in saline water so is there some evidence that can be referred to that inaccessibility to freshwater habitat will result in lower survival?	
	Managed in line with an EMP	The approval of an EMP is not confirmation of a sustainable fishery – noted above, what if fisheries are the greatest impediment to achieving the 40% escapement?	
	'Having been sourced from a sustainable fishery'	Above it is stated that sustainability is not achievable for decades. There has to be consistency and transparency about what sustainable means for the consumer to be clear about what they are buying.	
	P8: Afiliated with 'sustainable'	Again, recalling the statement made above, we can't see how the word sustainable can be used here.	
	Common Sense	These are hugely subjective terms – whose common sense and whose knowledge?	
	Parrett example	This would need to be referenced and show that inter-annual variation in environmental factors have also been taken in to	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		account. Further, this is only one example and it is a stretch to apply this to every exploited river in the species' range.	
	Excess would die through density dependent….	There is no evidence for this. Undoubtedly this happens to a proportion, but where is evidence that this will be the fate of all the calculated excess?	
	Predation	This doesn't make sense. If you remove the 'excess' that would supposedly be predated upon will the predators not simply turn to the individuals referred to as required to optimally populate the catchment?	
	Arzal example	As before, we know that glass eels can populate marine and coastal waters so there is no evidence that they will all simply die. The comment on predation needs referenced or needs to be indicated that it is anecdotal.	
	Restocking	Restocking elsewhere is not necessarily better use – the science is not conclusive on this. Also 'restocking' can mean many things. I would say that if fish were taken directly from a fishery, stocked above a barrier where there is a good habitat and downstream access, this would be significantly better than stocking yellow eels that had been on-grown for months and graded out. As such, 'restocking' needs to be teased apart delineating between 1) restocking for 'pure conservation purposes' in water bodies that won't be fished commercially for eels; 2) water bodies that are fished commercially (e.g. Lough Neagh), but that are meeting escapement targets; 3) water bodies that will be are fished, but not meeting escapement targets; 4) long-distance restocking (from UK to other parts of Europe); 5) restocking/translocation nearby but to a different catchment/water body; 6) translocation within same catchment (e.g. from downstream to upstream of an obstruction); 7) restocking with eels that have stayed in a farm or buyer's holding facility for any length of time vs. direct transfer. Restocking also needs to be a consideration when assessing a fishery, buyer or farm for the standard. For example, if 60% of what the fishers catch is going for restocking in a water body where there will be no commercial fishing, is that more sustainable than if their 60% is going to Lough Neagh? Or if their catches are lower, but going entirely for consumption? It could be argued that the ultimate	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	P9 Surplus glass eels 60% for restocking 5 – 10% survival High growth rates Farmed eels less contaminated Overall, the use of surplus Consensus … this standard will assume it [restocking] is effective 9 Continuous Improvement Raise the bar Those certified to demonstrate	destination of the eels caught is just as important in assessing the sustainability of a fishery as the fishing methods used. Again, viewing a natural resource as having 'surplus' is contradictory to the ecosystem approach the SEG ToC document proposes. According to who – needs to be referenced; and if this is the regulation figure, there is no biological/scientific support for it. Reference – can this really be claimed across the range? There will be natural variability in growth rates; is it not the case the slow growers are often weeded out for restocking? Reference. We are not convinced of this as there are far too many assumptions at present – needs to be supported with evidence. Who created the consensus? We disagree with this. At present, the document frequently switches between advocating a scientific evidence-based approach and supporting actions based on unsupported assumptions. SEG need to establish a robust approach for the standard to have a value. There would be great merit in this document highlighting where knowledge gaps are and assuming the precautionary approach while simultaneously encouraging/funding research to fill these gaps. There are many examples of stocking producing a negative net outcome to populations. It'd be helpful to indicate what changes have taken place in this iteration in response to new science. This is a very vague statement; would be good to be more specific, such that they are measurable. This may require some rewording. Presumably certification is also granted to maintain high standards – don't actually need to demonstrate improvement each year i.e. if they have complied to	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	continuous improvement	best practice and science has not driven refinements between successive assessments, how do they demonstrate improvement?	
	10.2 Components	It would be good if animal welfare could be considered as a core requirement.	
	10.3 a traceable supply	We think this is ultimately what the standard is delivering – no small achievement and to be applauded – but drawing from the text in the document so far, it is misleading to the consumer to state that these products are sustainable.	
	P11. Some criteria weighted	This weighting should be explained and how the decision was reached.	
	Surveillance audit in place	This is great and I think should be highlighted as a strength earlier, as it's essential for the standard's credibility.	
	1.1 Illegal trade increased	This statement needs support.	
	Demand from Asia	In relation to illegal trade, consumer demand needs to be addressed. The point could be made that the whole supply chain should be aiming to only meet the reasonable level of legal demand, e.g. what we know the European consumption to be, rather than exploiting at a level that exceeds legal consumer demand. The emphasis would be on creating a responsive legal market that fluctuates with stock levels and demand, rather than surplus dumping or illegal exports of catches in excess of legal demand.	
	SEG condemns some activities which, while not illegal, are not in the interest of recovery of the European	This is very euphemistic and ultimately a bit peculiar. If you state the law is the guide above but then say some legal things are bad, it completely undermines your credibility. In reality, it'd be fair to say many people disagree with elements of the Regulation and have called for it to be updated, so by the same argument couldn't it be said that just because it is legal it doesn't mean it is good. I'm pretty sure some smugglers think what they are doing is 'good' as it provides income and meets a food demand, even though it is illegal. It is underming to SEG to cherrypick when you agree and disagree with the law if the standard is to be consistent.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	eel population Unaccounted catch Illegal trade at 40% SEG member for 3 years No prosecutions P13 Greater demand for sustainable supplies Target – number of businesses Non certified eel 1.3 customers seek assurance Spot checks They don't feed Reduction in uncertified eel Minority likely	This isn't necessarily illegal, could just be sloppy paperwork at the governmental level. Where does this number come from? Is it a long-term average? If a new initiative can fulfill or exceed all of the requirements of the standard, why do they need to have to wait three years? This doesn't mean they are legal, simply clever… Has there been an economic analysis of what the demand is, what proportion of the market needs to be sustainable to achieve this and by association, how much fishing there needs to be? If there is more fishing than demand within the EU – be it for consumption or stocking - then is this not unsustainable and/or potentially fueling illegal trade? Should it not be done by proportion of market share? If you don't have the big guns then surely the problems will continue? How is non-certified sustainable eel defined? Has a customer survey been carried out to indicate that this is the case? I think it'd be important to do so if not. How is this to be implemented? This is essential. They don't feed or are not fed? Just because it is uncertified it doesn't mean it is not produced in a way that is equal or better than what the standard demands. This is indicating that SEG has a monopoly, which is dangerous. It would be good to indicate how many have been certified and how many have had it revoked to support this.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	to abuse the system		
	1.3.1 silver	In the spirit of improvement which is listed as a tenet of the standard, will it be expected of the holder to ultimately only trade in certified eel?	
	1.4 Benefits	The word 'reasonably' would not fill us with confidence as a consumer…	
	1.4 Targets. All customers	Is this end-consumers or within the supply chain?	
	Very rare	Who decides within SEG what constitutes "very rare"? Even if you don't publish this in the guidance I think you need some structure to this otherwise it is not much of a deterrent And is there a contingency plan to deal with these instances?	
	Alien species	There are legal requirements in the UK for notifiable pathogens and invasives not referred to here. Presumably many countries have similar systems; should SEG highlight their duty to escalate positive detection of such species to relevant regulator in each country. Feel the biosecurity section needs to be more robust to provide a strong deterrent.	
	Regular monitoring of health	Define or it is open to abuse. Any use of the word regular/frequent/periodic should be avoided. At least suggest a minimum.	
	Periodic	Define	
	Permissions to operate	This should be top of the list as it is a legislative requirement.	
	P17. Restocking: Sustainable definition	This is assuming that the river being stocked doesn't have these already – most rivers in the UK likely have *A. crassus* and so stocking with infected fish is probably not making the situation worse.	
	P18. Fishing in a small number of	Estuaries or RBDs? If it is this few, if SEG could support long-term research into some or all of recruitment/escapement/carrying capacity/density dependent mortality it would result in huge strides towards understanding what sustainability really looks like.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	estuaries Fishing rarely catches 50% Acceptable fishery e-Declaration systems Fishery data Direct consumption of glass eels Unit of fishery – helping small units P19 Eel management district GPG Glass Eel Restocking P20 Design of net for glass eel fishing Mesh size is small enough By-catch	Reference. Responsible? Is this a SEG initiative? Needs to be clearly defined. Agreed, but how does this relate to the standard? If this is expected of those that hold the standard, then it should be explicitly stated. But if the glass eels is ultimately being farmed for consumption then it is irrelevant. This could be elaborated on using some examples. River Basin District? Eel Management Unit? There should be a link/reference to the document – also who produced this? Is it recognized as credible? This is too vague. Being the point of capture, it's among the most important parts of the standard and a stronger position regarding the different styles of hand-netting is needed (e.g. incoming, outgoing tides, locations). Also, how then fishermen store and transport the glass eels to the buyers (e.g. trays, buckets, temperature, stored for how long in their garden shed tank, etc.) It doesn't have that much meaning if it's just about the mesh size. This will mean the increased chance of by-catch and brings us back to the 'ecosystem approach'. At what stage, does the assessor look at these bits of evidence? When the fishers are catching, when they sell them, once the	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		buyers have them? Unless the assessor is on the bank or in the boat, a lot of that information won't be reliable.	
	Main species	By just listing the main species (main by no. of individuals?) it may miss those rare and endangered species. All species should be list.	
	Evaluation of quantity	This need clarification.	
	Definition of negligible	This is another example of where the standard becomes vague. What is a low rate? Defined on what basis? SEG needs to seek expert advice on these and define acceptable thresholds with justification. If there is lack of data to do this then these are areas where SEG should be funding/facilitating the studies required to give the standard validity	
	Reasonable power	A very vague statement.	
	Quotas	Is this suggesting that French quotas are not robust? In which case, how can a French fishery be sustainable?	
	P21. Glass eels are fished from a place only where they can provide net benefit	Is this the SEG definition of 'Net benefit'?	
	Continuous improvement in survival	This needs to be clearer – are targets set in line with what is happening or what is aspirational?	
	Increasing confidence in fishery data	There's no mention of effort in the above. The glass eel fishery has the power to provide enormously valuable data in the form of CPUE but to date there seems little progress on this front. If SEG could instigate that, it would be massive.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	2.5 Threatened, vulnerable … Component 3 Yellow & silver eel fishing Yellow and silver eels are adult Fished only from where they can provide net benefit 3.3. Sustainable 'Landed and recorded…' 3.5 Damage to the bottom Component 4 Sufficient for Competition Careful handling '<u>Tipping'</u>	How are these terms defined? They have specific/varying meanings within IUCN and national legislation –indicate how SEG defines these. There is a lot that can be said here about the relative sustainability of different kinds of yellow and silver eel fishing. It would be reasonable for SEG to have a position on 1) catch methods (fyke nets, including mesh and ring shape and size, draft nets, long lines, including which baits, traps, bobs, etc.); 2) how long those methods are used for (e.g. how many days a fyke net can be left for); 3) locations for fishing; 5) bycatch; 6) survival of rejected/returned eels (those that are too small for sale); 7) storage of eels before sale; 8) survival rates during processing and transport; 9) end markets (legal vs. illegal, bait vs. consumption, etc.) Yellow eels, are 'growth stage' eels and silver eels 'maturing eels' – the term adult is not appropriate here. This makes the justification of exploiting growing and/or seaward-migrating spawner life phases very difficult. And utilised where possible? Perhaps better using 'benthos'? But there are examples across Europe where there are monopolies; this too much of an sweeping opinion statement without a real economic definition of 'competition'. What is this?	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	4.3 water quality parameters	Acceptable levels for high standards of welfare need to be defined so that SEG inspectors are able to spot check facilities and husbandry to determine if passing or failing.	
	4.6 For the purpose of conservation	We assume this means restocking, and would refute it is a conservation measure, there is not enough evidence to support this.	
	Component 5. High survival in fish farms	The little available evidence indicates the less time they are in farms the better – this was stated in the SEG -sponsored review of restocking.	
	The farm should be contributing to restocking to play its part in achieving net benefit	At present this is not proven; it should be indicated this is SEG's view.	
	Restocking of cultured eels	Again, restocking is a catch-all term within which are a range of practices, some potentially more effective than others. Also as is previously stated in the document, there is a huge amount of uncertainty related to stocking and where possible, the sector should support research in to its effectiveness e.g. marking any eels that are restocked so they can be monitored.	
	Eels for restocking not graded out	Excellent to see this in here. Is there anything about stocking density as this can potentially skew sex ratios. This should be a criteria in section 6 and non-negotiable	
	5.2 IFFO	First use of this abbreviation.	
	5.3 Food conversion ratios	Reference for why these are the gold standard.	
	5.4 water quality parameters	How fish farms are regulated varies massively across countries SEG is concerned with. Why don't SEG define evidence-based levels of key water quality parameters that SEG demands as a condition of receiving certification. Defaulting to local or national requirements is passing the buck and likely to mean varying levels of	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		environmental impact caused by members that achieve the same level of "sustainable" certification	
	5.5 Ecological impacts	See above.	
	Component 6 Accepted. Management technique – in several EU countries' EMP	Accepted by whom? But is this because it is an effective action or an easy/feasible one? The UK has not gone down this path and it's important to offer a balanced view as to why – i.e. it was seen as being more effective to put resources elsewhere because the jury was out on stocking.	
	Close to where eels were caught	And as quickly as possible after catch; and without grading; and at a density that does not skew sex ratio unnaturally. And to date there has been little study of how restocking affects the ecosystem as whole – see section 8.	
	SEG & fisheries authorities	Can SEG talk on behalf of fisheries authorities and what bodies does this term represent?	
	Over-abundance	Can SEG talk on behalf of fisheries authorities and what bodies does this term represent?	
	Rationale	There is no evidence to support the breadth of this statement – hugely misleading.	
	Silver eel escapement measured confidently	Can a river that presently does this be given as an example?	
	6.1 Restocking to improve escapement	There should be some reference to it being as natural or ecologically sensitive as possible. There's nothing about density of stocking below.	
	Fishing of restocked eels	Does this mean of yellow or silver eels? How can this be discerned? There are no before/after stocking studies to our knowledge.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	6.2 Sustainable Indicators	This is great to see - is it worth considering specifically stating that they have to be marked? This going to be the best way to identify stocked eels and also allows those outside of the stocked area to identify them e.g. movement through the Baltic, or transboundary rivers.	
	6.3 suitable eel habitat	Who assesses this and based on what criteria? What actually happens is that someone looks to see if there is record of eel being there previously and, at best, if eels are at lower densities than historic (which they inevitably tend to be). There is no meaningful assessment of the available food productivity in relation to numbers stocked.	
	Component 7. Issues	To what extent are wholesalers and retailers aware of the status and biology of the species they may be selling? To what extent does the consumer know, and as previously stated, how is the term sustainable understood by them as SEG defines it?	
	Component 8. Health Aquatic Ecosystems	We have raised a number of points relating to this above.	
	Effective eel conservation & education	We have seen missives from certain people within the sector that are misleading; if SEG is giving someone a standard they need to be communicating in a truthful and credible way.	
	Companies able to be recognised	Does this just mean getting in the media? Some media reports on eels are not credible.	
	8.2 Significant contribution	A definition of this should be included; we have a better understanding of costs, methods and timescales for many interventions and there needs to be more clarity here e.g. % of turnover; x man hours.	
	P34. SEG Standard	This term is much more appropriate than 'Sustainable Eel Standard' considering the uncertainties raised above This has to be defined.	
	P39. Balance of probability		

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	P40. No 7 Target 11 – increase in eel conservation projects Overal Standard. 10% increase NGOs	Should there not be some reference to the legal situation? If they are breaking the law, does SEG have a responsibility to report them? Where are these numbers from? Are they just the EU? And is this ALL conservation projects, as we'd assume this should be due to the eel sector rather than through other sources. Increasing number of projects doesn't indicate an increase in benefit – no sense of scale or effectiveness. This needs clarification – is this 10% in monetary value? This end comment should be removed. The Eel Standard should be able to stand on its own and be robust enough/fit for purpose not to need external validation by any named sector. Further, mentioning organisations by name is unhelpful – it creates 'us v them'. Also, considering the complexities of the eel situation, this end point would not be down to SEG alone.	
Christine Absil **Good Fish Foundation** christine@ goodfish.guide Comments on Version 6 draft 1		<u>GENERAL</u> We very much appreciate the initiative SEG has taken to improve the SEG standard in a way that it is in line with ISEAL guidelines. Eventually, this is the only credible way to apply a standard. This is essential if an eel industry tries to demonstrate that it has a right to continue exploiting a resource which according to many, cannot endure any commercial exploitation, as this slows down or even undermines any recovery efforts. Since through its '*theory of change'* the SEG is convinced that it can demonstrate that a commercial sector is essential in the recovery of European eel, we are very keen to see this worked out in practice. This refers in particular to the demonstration of the '*net benefit on eel populations'.* In the ideal situation, when '*net benefit*' indeed can be demonstrated, and when SEG certified products are fully traceable, we do see the potential of substantially improving consumer awareness on the plight of the eel, by *jointly* communicating on the need to source only certified eel. However, if certification would remain more or less a marketing tool, with a limited number of uptake by producers, the value of the certification effort is useless.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		After all, it just provides a license to continue exploiting, and the added value of better data availability, monitoring, and recovery schemes supported by producers, remains limited. In that case, a complete ban on commercial & recreational harvesting would make much more sense, since everyone would know that any eel on the market would be illegal. Enforcement of a complete ban would arguably be much easier than enforcement of restricted harvesting. **So, it is up to the industry to demonstrate that responsible harvesting is possible, enforceable, and has a net benefit on eel populations**. At the same time, we do recognise the limitations and drawbacks the use of a certification scheme brings along: thorough traceability is essential; higher costs, and extra administrative burden are involved. At all times, SEG will have to make sure that these issues will be prohibitive for certain producers. We suggest for example to introduce a fund, maintained mainly by the more financially viable producers such as aquaculture companies. Also, as part of the SEG standard, we would like to see an overview of the socio-economic relevance of the eel sector. How many FTE's are involved, and in which part of the sector? What is the economic relevance per sector? That would allow the measures to be put more in context. 2. The sustainable eel group – our purpose Page 4, *Vision*: This vision regarding the benefit of communities, local economies, and traditions is an often used argument, but in reality **difficult to defend**. In general, it will be very difficult to demonstrate that local communities and local economies are benefitting from eel production and/or consumption. Sometimes, restocking efforts are even costlier than the fishery would earn (Sweden). Also, the aquaculture industry would not qualify under this vision, as it is a relatively recent industry with hardly any historical/cultural value. The only argument that holds, is the tradition of eel consumption, which can be maintained by aquaculture. Specific fisheries expertise can also be maintained by involving fishermen e.g. in trap-and-transport activities. 3 The purpose of this standard Page 5: *The standard is designed to provide confidence to retailers and consumers who wish to buy responsibly.*	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		This is a very sound objective. However, why then talking about **sustainable** eel in the standard? If *sustainable* cannot truly be applied to European eel (which is acknowledged by SEG), it is very confusing, and we would even argue, misleading, to use the word *sustainable* when referring to the standard. Consumers and the general public simply won't understand this, and it definitely will provoke serious criticism with NGOs, but probably also members of ISEAL, who are keen to maintain the credibility of their standards. The objective of our organisation is to promote 'Good Fish', i.e. responsibly produced fish. However, we would not support an ecolabel with the word sustainable, when in fact it is not yet sustainable, but merely responsible. Therefore, we suggest to describe the 2 standards (silver and gold) in a different way: gold as 'responsible' and silver as 'aspiring' or 'candidate' or something equivalent, making it very clear that the product hasn't reached a level yet, but is on the way. In other fisheries terminology, this would be described as a fishery in a 'Fisheries Improvement Program' (FIP). A fishery in a FIP is not yet recognisable in the market. One could argue that this should be the case as well for eel, implying that only the 'gold' level would carry a label. A serious problem with a 'lower' standard which is still recognisable in the market is that there is insufficient drive[1] to move to the top level, since there is already market recognition. And after all, that is where most producers are after. If sticking to one level wouldn't be possible, it could be argued to differentiate between the different sectors to determine whether 2 levels are necessary. 5. Sustainability and the European eel (p.6) *Progress with EMPs has been very mixed […] With European waters so degraded […] seeking 40% escapement from a 10% healthy environment for eel is unachievable.* This problem has been acknowledged by ICES, and therefore it has been calculated what the possible escapement is with the current habitat availability. Since this standard cannot influence habitat availability, unless it would somehow be incorporated in the 'net	

1. Gabriel S. Sampson, James N. Sanchirico, Cathy A. Roheim, Simon R. Bush, J. Edward Taylor, Edward H. Allison, James L. Anderson, Natalie C. Ban, Rod Fujita, Stacy Jupiter, Jono R. Wilson (2015) Secure Sustainable Seafood from Developing Countries. *Science* 348 (6234): 504-506. DOI: 10.1126/science.aaa4639

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		benefit' criteria, it would make sense to refer to B_{best} as an alternative objective for the standard. This is the highest silver eel escapement possible with the **current** habitat availability and zero anthropogenic mortality. (p.7) *Definition of a sustainable eel fishery:* *"managed in line with an approved EU Eel Management Plan"* It is not clear what *managed* means. It would be more clear if reference was made to $B_{best.}$ 6. Net benefit ***(p.8) Definition 1. Affiliated with a 'Responsible' level of compliance:*** *certified practices are more beneficial or less damaging to eel populations than non-certified practices.* It is impossible to determine whether certified practices are 'more beneficial' or 'less damaging' to eel populations than non-certified practices. Therefore it should be left out. It can be misleading, and will be prone to misuse. Only **Definition 2** should be used. *Assumptions:* it is key that a '*surplus*' is defined properly, which implies proper monitoring and data collection. *Farmed eels have proven to be less contaminated with dioxins and PCBs than eels from the wild.* What is the relevance of this in terms of eel management? Food value? Not clear. 10. How the standard works Here again, we argue that having a gold and a silver level is creating a lot of confusion. Moreover, incentives to move to gold may be lacking, if a label using the word 'sustainable' can already be used at the silver level. 11. The standard (p. 13) Criterion 1.2 Responsible indicator: if a facility can trade in both certified and non-certified eel, this is recipe for greenwashing, or even mislabelling, if traceability is not 100% guaranteed. *Component 2 – glass eel fishing* *Survival & eating glass eels* How can the use of '*the small proportion of glass eels that don't survive fishing, holding and transportation'* be monitored? This exemption looks like a potential loophole to continue use of glass eels for direct consumption. *Component 3 – Yellow and silver eel fishing* (p. 24) As yellow and silver eels have the greatest opportunity to survive and migrate to the Sargasso sea to spawn, it will very	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		difficult to define the **net benefit** these fisheries. So, the 'responsible' indicator would need more detail. At the same time, these fisheries argue that they have an important cultural relevance. (p. 25) *Criterion 3.4: the fishery has negligible impacts on rare or other protected species* Silver eel fishing often takes places in coastal areas which is also the habitat of several protected migrating species such as the twait shad, trout and salmon. It will be very difficult to assess the impact of silver eel fishing on these species. *Component 5 – eel farming* *Criterion 5.7 The farm provides eel for restocking* • What is the necessity of having this criterion? • Has the benefit of this been demonstrated? • How to avoid grading (slow growers) for restocking? *Component 6 – Restocking* It is not clear who has the responsibility for the activities. • Who is responsible for financing? (It is often financially supported by the Member state). • Who sets up and carries out the monitoring program? • Who determines suitability of the area for restocking? *13.2 Compliance* It is unclear where stakeholders are involved in the certification process. There is no possibility to comment on the draft final report. With certification schemes as MSC and ASC, public input can be given at various stages of the certification process. • It is also unclear who is the standard holder. Is it the SEG? How independent is this? • How is correct implementation of the Standard being monitored? E.g. who checks correct use of the label, and who would follow up on complaints of misuse? **Comments on key issues in the previous version:** - Transparency of certification process is key. Will draft reports be available to the public and stakeholders? *This has not been answered yet in this version.* - Similar to MSC, stakeholders should be allowed to raise objections to the certification and an objection procedure should be in place. This does not seem to be the case at present. *Still not the case.*	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		- On P5: "The final decision is taken by the SEG review panel after analysis of the assessor's report". As SEG also contains representatives from the fishing and aquaculture industry this could create, or at least suggests, conflicts of interest. Why isn't the decision of the CB leading? *The text now suggests that the CB has the final word, but that is not clear. As said above, in this procedure, a stakeholder comments period should be in place, and also an objection possibility.* - The standard is mostly based on compliance with the eel management plan. Progress of the EMP's is reported to EU by the member states, but until now this progress is not evaluated further. Therefore we strongly suggest that effectiveness of an approved EMP of the MS is not taken for granted but assessed by a 3rd party as well. *ICES may provide more quantitative insight into effectiveness of EMPs.* - Component issue indicator requirements include many qualitative statements "with reasonable confidence" e.g. component 2.1, 5.1, 5.2, 6.1. E.g. component 5.1 and 5.2 "the restocking is part of a management initiative that should with reasonable confidence lead to the 40% escapement target being achieved in the future. " this statement includes several very qualitative assumptions. Namely "should lead with reasonable confidence to the 40% escapement goal". *There are still a number of qualitative assumptions.* - Restocking should not be the be all end all method. Centuries of eel restocking have learned that there is no clear relationship between percentage escapement and restocking. To quote Willem Dekker (2016a): "As successful as restocking might have been locally, it has not markedly changed the overall trends and distribution patterns or halted the general decline of the stock and fishery.". **ISEAL compliance:** We think several of the aforementioned issues in the current standard are likely to be raised by ISEAL as well. ISEAL Credibility principle 3 (relevance) requires that standard requirements are objective. The qualitative nature of some of the SEG standard requirements allows a subjective interpretation. The way ISEAL credibility principle 7 (transparency) and 8 (accessibility) are implemented is unclear. How and when stakeholders are asked to	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		provide input during the SEG certification process should be clarified. Other issues (*these have not been updated since our comments on V 5.2)*: - Component 4.2: red score indicator mentions fish waste but the use of e.g. trimmings from salmon farming should be allowed. - Component 4.3: Feed component of the standard should not only include FCR. Fish In Fish Out (FIFO) ratio should be estimated for both fish oil and fish meal according to Jackson (2009). Ideally Forage Fish Dependency Ratio (FFDR) should be estimated similar to how this is done in the ASC standards, e.g. the 2012 salmon standard Appendix IV-1. - Component 4.3: Feed component of the standard should include steps taken to lower the aforementioned FFDR as this ratio is very high compared to other farmed fish species. - Component 6.3: Provisions should be made for bycatch of invasive species that is of value to the fishery such as crayfish and Chinese mitten crab. The fishers should be allowed to retain these species if it complies with national regulations - Criterion 2.5: A clear definition of ETP species (according to which list, IUCN, national red list, other?) should be given here. - Component 6.7: A clear definition of humane slaughter methods must be given. In our opinion the only approved methods should be electric stunning and percussive stunning. **References:** Dekker, W., & Beaulaton, L. (2016a). Faire mieux que la nature? The History of Eel Restocking in Europe. *Environment and History*, *22*(2), 255-300. Dekker, W., & Beaulaton, L. (2016b). Climbing back up what slippery slope? Dynamics of the European eel stock and its management in historical perspective. *ICES Journal of Marine Science: Journal du Conseil*, *73*(1), 5-13. Jackson, A. (2009), Fish In – Fish Out ratios explained. Aquaculture Europe 34, 5 – 10.	
Anonymous 1. Asked for comments not to be published		In general, I like the document regarding its systematic approach. I am an <u>independent reader and eel disease scientist</u>, and do not look to political issues, but more to the technical part.	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
		I think in general you did a good job already. I do have some remarks, questions and some suggestions. **Questions/remarks/suggestions:** Who will be in charge of the certification connected to this Standard, and which education is needed to be authorized to certify? For instance on "health", my subject?	
	Pages 8-9	For the assumptions indeed references are needed. It would have added to see these already.	
	Page 15: 1.4:	Benefits: Giving security on "safety" to buy eels to "customers" : what do you mean by <u>safety and security</u>? There is 1) fish diseases (viruses, *A.crassus* are not zoonotic (i.e. not pathogenic to humans), some bacteria might be harmful, like *Vibrio vulnificus* in scarce cases); there is 2) food safety: contamination with bacteria like *E.coli, Listeria* etc., or with toxic compounds? To define better. Who are the "customers"? The consumers? The eel processors?	
	Page 16:	o Sustainable indicators: EU-regulations: There are gaps in this: some countries, like NL have no official registered drugs for fish. o "There have been no bio-security issues in the last 5 years": This is vague, and therefore impossible. Or you define what kind of issues, or you leave it out/adapt. o Who signs the health certificates, and are these provided for with glass eel transports? As this is wild caught it may carry viruses without any clinical sign, so, a signature does not say they eels are pathogen free. o Responsible indicators: idem, to a less extent. o Eel Farming: I suggest you add the use of a logbook, in which all actions at the farm are obligatorily recorded.	
	Page 17	see my remarks on page 16. o Responsible indicators: "similar prevalence of the same disease(s)": this makes sense! o Wholesale/retail/processing: "no instances of infection": infection with what? There is no notification of eel diseases, so, what would be notified/reported at all, except from what is in the logbook?	

Name & Organisation	SEG Standard para ref	Comment/issue	SEG Response
	Page 20 Page 21 Page 26: Criterion 4.5 Page 28 Page 30: Criterion 5.6:	· "Mortality during the first week in culture": From stories of eel farmers I know, glass eels are transported up and down the French and Portuguese coast to get the highest price, so, not *linea recta* to the target address. This hampers the glass eel health extremely, and glass eels might die due to infection by f.i. the bacterium *Pseudomonas anguilliseptica* upon arrival at the eel farm. · Targets & measures: I would advise to add: Transport from source directly to eel farm/target address. · ᴛransport: to add: Transport from source directly to eel farm/target address at the right water temperature. Will the tracking system "TRACES" be used? Then please add here also. Useful info: The OIE has a chapter on TRADE MEASURES, IMPORTATION/EXPORTATION PROCEDURES AND HEALTH CERTIFICATION, please see http://www.oie.int/international-standard-setting/aquatic-code/access-online/ o Humane slaughter methods: "Although the EU.....": The OIE has a chapter on best slaughter methods for fish: please see: Chapter 7.2. Welfare of farmed fish during transport; Chapter 7.3. Welfare aspects of stunning and killing of farmed fish for human consumption : http://www.oie.int/international-standard-setting/aquatic-code/access-online/ and Lambooij et al.,2002: https://www.deepdyve.com/lp/wiley/a-feasible-method-for-humane-slaughter-of-eel-anguilla-anguilla-l-hVFQLAqfpK • Benefits: "Survival is maximised": how to measure? · see OIE guidelines given above, and Lambooij et al.,2002: https://www.deepdyve.com/lp/wiley/a-feasible-method-for-humane-slaughter-of-eel-anguilla-anguilla-l-hVFQLAqfpK · Page 31: Criterion 6.1, 6.2: Sustainable indicators: How? Do you give guidelines how to do this? It is vague, and difficult, I know. Good luck with further developing the Standard.	