

SEG Standard Assessment – South West Eels**Assessment against:**

Component 1: Core requirements
Component 4: Eel buying and trading
Component 6: Restocking

Completed by
Tim Huntington

4th May 2021

Final

Reviewed and approved by Certification Body:
David Bunt, Sustainable Eel Group, 6 May 2021

Introduction

This document represents the report completed following the 2021 audit carried out under the Sustainable Eel Standard (Version 6.0, June 2018) against SW Eels. This assessment has been completed against Components 1, 4 & 6 of the Standard only.

The assessment is of an eel holding unit located Popes Pool Cottage, Over, Gloucester, GL2 8DB, United Kingdom.

1. The assessment

The assessor was Tim Huntington who met remotely with Stephen Beard via Microsoft Teams on the 16th April 2021. The audit included interviews with Sam Chapman and Martin James of the Environment Agency

2. Client Contact Details

Client Contact Name	Stephen Beard
Client Address	Popes Pool Cottage, Over, Gloucester, GL2 8DB, UK
Client Email	stephen.beard@hotmail.co.uk
Client Phone Number	+44 (0)77922 33354

3. Results of the assessment

The outcome of this assessment is as follows;

A responsible score will result in 1, an aspiring score in 0. Score weighting will be taken into consideration for each element.

That SW Eels has scored the following for **Component 1: General Requirements** and therefore **should** be considered **ASPIRING** under the SEG standard.

Component 1: General Requirements	Auditor's findings	Weighting	Score
1.1 Commitment to Legality	Responsible	1	1
1.2 Contribution to eel conservation projects	Responsible	1	1
1.3 The facility trades in certified responsibly sourced eels	Responsible	1	1
1.4 Traceability:			
1.4.1 Incoming products, separation and segregation	Aspiring	1	0
1.4.2 Outgoing products	Aspiring	1	0
1.4.3 Record keeping and documentation	Aspiring	1	0
1.5 Biosecurity & welfare – eel and eel products are provided with minimal risk of diseases, parasites and alien species	Aspiring	1	0
Total		7	3
Percentage Responsibility Score:		43%	

That SW Eels has scored the following for **Component 4: Eel buying and trading** and therefore **should** be considered **RESPONSIBLE** under the SEG standard.

Component 4: Eel buying and trading	Auditor's findings	Weighting	Score
4.1 The glass eel holding facility is a registered aquaculture production business	Responsible	1	1
4.2 Mortality in storage facility	Responsible	2	2
4.3 Mortality during transport and initial holding if transported to farm	Responsible	2	2
4.4 Water quality	Responsible	1	1
4.5 Handling and welfare	Aspiring	1	0
4.6 Transport	Responsible	1	1
4.7 The required percentage of glass eels is being used for restocking	Responsible	2	2
Total		10	9
Percentage Responsibility Score:		90%	

That SW Eels has scored the following for **Component 6: Restocking** and therefore **should** be considered **ASPIRING** under the SEG standard.

Component 6: Restocking	Auditor's findings	Weighting	Score
6.1 Restocking is carried out in accordance with an approved EMP, in order to improve escapement to or above the 40% target and is approved by the relevant agency	Aspiring	1	0
6.2 Survival and growth rates of restocked eels, and escapement from the system, can be estimated	Aspiring	1	0
6.3 The restocked area is suitable for eel growth, survival and escapement	Responsible	1	1
Total		3	1
Percentage Responsibility Score:		33%	

Summary of assessment and scoring

Component	Not met	Aspiring	Responsible
1	0	4	3
4	0	1	9
6	0	2	1
Total	0	7	13
Total Responsibility Score = 13 / 20			65%

With a 'Responsibility' score of 65%, the SW Eels holding unit located at Popes Pool Cottage in Over meets the criteria for achieving SEG certification.

Recommendations:

1. The organisation improves and standardises its record keeping as follows:
 - a. Catch records: An internal log should be established that records all catches of eels including the fisher details, time, date, location, volume, description of the catch (e.g. size, stage and condition) and destination of the catch. Each catching event should be allocated a unique number that acts as a batch number equivalent. These catch records should match those submitted to the Environment Agency.
 - b. Purchase records: An internal log of all purchases of eels, including fisher details (inc. number), time, date, location, description of the catch (e.g. size, stage and condition at purchase), volume and price paid. Each purchase should be allocated a unique number that acts as a batch number equivalent.
 - c. Holding records: Details of all eels held on site including segregation into different batches (based on arrival date and origin) inc. time and date of arrival, volumes in, mortality levels over holding period and volumes out. These must be sufficiently detailed to allow mass balance calculations e.g. fish out equals fish in, minus mortalities.

- d. Sales records: An internal log of all sales of eels, including details of the purchaser, volume sold, time & date of collection and intended use e.g. restocking, grow-out or onward sale (UK / non-UK). It should also record the relevant log references to the catch / holding batch.
 - e. Restocking records: any restocking of eels should record the date and time of restocking, the origin of the fish (e.g. newly caught or from the holding facility) and relevant log references to the catch / holding batch. It should also reference the relevant permit from the Environment Agency for restocking activities.
2. If possible, these records should be summarised in electronic form e.g. in a spreadsheet.

4. Next Audit

At the completion of the audit the client was assessed against the risk assessment set out in the Methodology. This is set out in the table below.

Question		Performance of the Client at Audit	Yes	No
1	Has the client been part of any external investigation which may be of concern to SEG AND/OR been suspended from any other certification standard?	Enhanced Surveillance	No->	Go to Q2
2	Has the client received a borderline pass for a Component in its previous audit?	Enhanced Surveillance	No->	Go to Q3
3	Does the client only buy and sell product (does not physically handle it?)	Minimum Surveillance	No->	Go to Q4
4	All other scenarios	Standard Surveillance		

	Certification Audit	Year 1	Year 2	Year 3	Year 4 Recertification Audit
Minimum Surveillance	On-Site Audit	Remote Audit	Remote Audit	Remote Audit	On-Site Audit
Standard Surveillance	On-Site Audit	No Audit	On-Site Audit	No Audit	On-Site Audit
Enhanced Surveillance	On-Site Audit	On-Site Audit	On-Site Audit	On-Site Audit	On-Site Audit

As the client has been seen to fall into the **standard surveillance** bracket, the next audit will be due on in April 2023 (in **2 years' time**) and shall be an **onsite audit**.

COMPONENT 1: GENERIC REQUIREMENTS

The tables below give the standard and a rationale for the scores given above. The score is highlighted in the appropriate colour.

Component 1 – Generic requirements	
Criterion 1.1: Commitment to legality	
Responsible indicators	For at least the past two years: the organisation has not been found guilty for any offences relating to eel fishing or trading.
Aspiring indicators	For at least the past 12 months: the organisation has not been found guilty for any offences relating to eel fishing or trading.
Discussion	No infractions have been incurred in at least the last 24 months.
Score	Responsible

Criterion 1.2: Contribution to Eel Conservation Projects. (Optional bonus score)	
Responsible indicators	The organisation donates at least 2% of its profits or at least 20% of its corporate responsibility programme to projects that make a positive contribution to eel conservation or population enhancement, such as Eel Stewardship Funds, River Restoration projects, conservation and education projects.
Aspiring indicators	The organisation donates 1 – 1.99% of its profits or 10 - 20% of its corporate responsibility programme to projects that make a positive contribution to eel conservation or population enhancement, such as Eel Stewardship Funds, River Restoration projects, conservation and education projects.
Discussion	No financial contributions have been made. However the organisation contributes at least 50 kg of its catch to direct restocking annually, worth c. GBP 7,500 which exceeds 2% of profits. The organisation is also supporting the Eels in the Classroom education programmes.
Score	Responsible

Criterion 1.3: The facility trades in certified responsibly sourced eel	
Responsible indicators	The organisation trades in at least 50% (by number) of certified responsibly sourced eel and has the documentation to demonstrate that.
Aspiring indicators	The facility trades in 10 – 49.9% (by number) of certified responsibly sourced eel and has the documentation to demonstrate that.
Discussion	All eels are caught on the Severn river catchment from 100% SEG certified sources. This can be proven from catch records to the Environment Agency.
Score	Responsible

Criterion 1.4: Traceability	
1.4.1: Traceability - Incoming product, separation and segregation	
Responsible indicators	<ul style="list-style-type: none"> • Certified and uncertified eel products can be clearly and easily traced back to their source. • Where a fishery or buyer, an electronic tele-declaration system is used • It operates a clear system which ensures that the product remains separated at all stages from arrival to dispatch from non-certified eel products. • The organisation ensures that any products wishing to make a claim as certified do not contain any non-certified eel-based ingredients. • If resolved through mass- or number- balance calculations, the margin of error does not exceed 2%
Aspiring indicators	<ul style="list-style-type: none"> • Certified and uncertified eel products can be traced back to their source. • It operates a system which ensures that the product remains separated at all stages from arrival to despatch from non-certified eel products. • The organisation ensures that any products wishing to make a claim as certified do not contain any non-certified eel-based ingredients
	<ul style="list-style-type: none"> • If resolved through mass- or number- balance calculations, the margin of error does not exceed 5%
Discussion	<p>All incoming elvers are caught by Stephen Beard (of SW Eels) or an informally approved supplier (fisher). No electronic tele-declaration system is used, but a paper log (see Figure 1) is used and was cross-checked against individual purchase receipts (see Figure 2 as an example) which include the name & unique number of the seller but does not include any further details e.g. date and location of catch. However this can be derived from the catch reports submitted to the Environment Agency.</p>
Score	Aspiring

1.4.2: Traceability - Outgoing product	
Responsible indicators	<ul style="list-style-type: none"> • Where a fishery or buyer, an electronic tele-declaration system is used • Documentation is well maintained with a maximum of 2% error in the following: <ul style="list-style-type: none"> • The organisation correctly uses batch-coding for labelling certified product, which can be on the packaging for the product, or included in the documentation (e.g. invoice) with the assignment • All product to be sold as certified by an organisation is accompanied by an invoice which meets the following criteria: <ul style="list-style-type: none"> - Includes an appropriate batch code - Includes a record of the quantity (no. & weight) of product and to whom it was sold

Aspiring indicators	<ul style="list-style-type: none"> • Documentation is well maintained with a maximum of 5% error in the following: • The organisation correctly uses batch-coding for labelling certified product, which can be on the packaging for the product, or included in the documentation (e.g. invoice) with the assignment • All products to be sold as certified by an organisation are accompanied by an invoice which meets the following criteria: - Includes an appropriate batch code - Includes a record of the quantity (no. & weight) of product and to whom it was sold
Discussion	No electronic tele-declaration system is used. Invoices are produced with volumes and routinely submitted to the Environment Agency (confirmed by the EA).
Score	Aspiring

1.4.3: Traceability - Record keeping and documentation

Responsible indicators	<ul style="list-style-type: none"> • The organisation operates a system that allows the tracking and tracing of all eel from purchase to sale and including any steps in between. In the case of live eels this should include the ability to track each batch delivered to a buyer to be connected back to a water, a time period (maximum duration one month) and specific fisherman/vessel • If a fisherman or buyer, a tele-declaration system is used to report catches and trade • The organisation operates a system that also allows for the completion of a batch reconciliation of eel product by weight over a given period. • The organisation maintains records for a minimum of three (3) years.
Aspiring indicators	<p>The above requirements are met except that:</p> <ul style="list-style-type: none"> • Records have been maintained for less than three (3) years • If a fisherman or trader, a tele-declaration system is planned to be used to report catches and trade in the next season
Discussion	No electronic tele-declaration system is used. Purchase receipts and sale invoices are produced and the latter routinely submitted to the Environment Agency (confirmed by the EA). There is no reconciliation or annual stock accounting, but this can be derived from the individual receipts and invoices.
Score	Aspiring

Criterion 1.5: Biosecurity & welfare – Eel and eel products are provided with minimal risk of diseases, parasites and alien species	
Eel Fishing: Biosecurity measures are adopted	
Responsible indicators	<ul style="list-style-type: none"> • The fishery conducts good biosecurity measures such as the disinfection and drying of nets and equipment between each fishing in different waters. OR: • The fishermen only operate in the same river or estuary, with no risk of transferring diseases or alien species between catchments
Eel buying & trading: Biosecurity is present and disease is treated rapidly and appropriately	
Responsible indicators	<ul style="list-style-type: none"> • The use of chemicals follows legal requirements of the appropriate EU regulations and of the country concerned. • The facility has the appropriate permissions to operate from the relevant licensing authority • An effective and documented biosecurity plan is in place and there is evidence that it is being followed. • Records are available showing regular monitoring of health and possible signs of stress according to the facility's plan (including the completion of microscope parasite checks) and daily mortality is recorded. • Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility.
Aspiring indicators	<ul style="list-style-type: none"> • The use of chemicals follows legal requirements of the appropriate EU regulations and of the country concerned. • The facility has the appropriate permissions to operate from the relevant authority • An effective and documented biosecurity plan is in place and there is evidence that it is being followed. • Eels are regularly monitored for health and possible signs of stress (although this might not be documented) and daily mortality is recorded. • Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility.
Discussion	<p>Eels are always caught / purchased from the same catchment e.g. the Severn within 50 miles of Gloucester. All equipment is cleaned (pressure jet washed) after use and occasionally disinfected (esp. keep nets). The vivier system is on the proprietor's home curtilage and < 50 m from his house. The stock is kept a maximum of five days and is checked regularly through the day and evenings. The tanks are aerated, the water filtered and regularly tested for quality e.g. temperature, pH, nitrate and ammonia. Any daily mortalities are removed and recorded. The vivier facility is registered as an Aquaculture Production Business with Cefas (see Figure 3).</p>
Score	Aspiring

Restocking: The risk of restocked eels introducing disease into wild populations has been assessed and is minimal	
Responsible indicators	Eels are tested before restocking and found to be free of disease AND/OR eels are from a known source which is tested on at least an annual basis and known to be free of disease.
Aspiring indicators	Eels are tested before restocking when first sourced from a new area, and periodically (at least annually) thereafter to ensure they are free from disease.
Discussion	Eels are always restocked back into the Severn catchment within 20 miles of their original catching location (and usually nearby above any migratory obstacle). This is done immediately e.g. straight after catch or more rarely after a brief period of holding in the vivier tank. As no new areas are stocked, no testing is considered necessary.
Score	Responsible

COMPONENT 4 - EEL BUYING AND TRADING

Criterion 4.1: The Glass eel holding facility is a registered Aquaculture Production Business	
Weighting: 1	
Responsible indicators	The Glass eel holding facility is a registered Aquaculture Production Business
Aspiring indicators	The facility is not a registered Aquaculture Production Business, but has credible plans to register within the next 6 months
Discussion	The vivier facility is registered as an Aquaculture Production Business with Cefas (see Figure 3).
Score	Responsible

Criterion 4.2: Mortality in storage facility	
Weighting: 2	
Responsible indicators	Mortality rate over the season is less than 2% on average.
Aspiring indicators	Mortality rate over the season is less than or equal to 5% on average but greater than or equal to 2%
Discussion	Mortalities (mainly due to elvers becoming trapped between the trays during transport) are very low e.g. 1-2 individuals per batch, so <0.1%.
Score	Responsible

Criterion 4.3: Mortality during transport and initial holding if transported to farm	
Weighting: 2	
Responsible indicators	<ul style="list-style-type: none"> Buyers source at least 90% of their eels from certified suppliers OR Mortality during transport and for the first week at the farm is less than 2% on average
Aspiring indicators	<ul style="list-style-type: none"> Buyers source 50% - 89.9% of their eels from certified suppliers OR Mortality during transport and for the first week at the farm is less than or equal to 3% on average but greater than or equal to 2% on average.
Discussion	Mortalities, mainly due to elvers becoming trapped between the trays, are very low e.g. 1-2 individuals per batch, so <0.1%.
Score	Responsible

Criterion 4.4: Water quality	
Weighting: 1	
Responsible indicators	<ul style="list-style-type: none"> 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) Water quality management procedures are in place including regular monitoring of relevant parameters which shows that water quality is always high and stable The facility operates a back-up system to ensure that water quality will not adversely affect survival rates in the case of an equipment failure
Aspiring indicators	<ul style="list-style-type: none"> 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) The facility has a minimum of a back-up generator and oxygen supply
Discussion	The vivier system is on the proprietor's home curtilage and < 50 m from his house. The stock is kept a maximum of five days and is checked regularly through the day and evenings. The tanks are aerated, the water filtered and regularly tested for quality e.g. temperature, pH, nitrate and ammonia. Any daily mortalities are removed and recorded. The vivier facility is registered as an Aquaculture Production Business with Cefas (see Figure 3). There is a battery-powered back-up pump with 12 hours running time capacity in case of power failure. Water can also be chilled to around 8°C if necessary e.g. during warm weather.
Score	Responsible

Criterion 4.5: Handling and welfare	
Weighting: 1	
Responsible indicators	<ul style="list-style-type: none"> • Systems are in place and the facility is designed to keep handling to an absolute minimum • Documented procedures are in place for handling, and handling, where necessary, is careful • The infrastructure is designed to avoid injuries, and so that the use of nets is rarely necessary. When used, nets are small-mesh (1mm maximum) • Eels are moved without being allowed to dry out.
Aspiring indicators	<ul style="list-style-type: none"> • The facility may not be optimally designed, but systems are in place to avoid handling as much as possible within the constraints of the facility • Handling, where necessary, is carefully planned and executed • The infrastructure has been optimised as far as possible to avoid injuries • Nets are small-mesh (1mm maximum) • Eels are moved without being allowed to dry out.
Discussion	Handling is kept to a minimum. Dip nets are fine mesh (c. 0.5 mm). Eels are never allowed to dry out. However there are no documented procedures in place.
Score	Aspiring

Criterion 4.6: Transport	
Weighting: 1	
Responsible indicators	<ul style="list-style-type: none"> • There is a Transport Plan in place to minimise travel time – this meets the Transport requirements for vertebrates • Packing is done in a way that minimises handling, time and stress • Eels are kept cool and wet with an adequate supply of oxygen • The operator holds the relevant transport authorisations
Discussion	A transport plan is in place (see Figure 4). Elvers are kept in specialised elver trays and trips are always short e.g. < 1 hour.
Score	Responsible

Criterion 4.7: The required percentage of glass eels is being used for restocking	
Weighting: 2	
Responsible indicators	<ul style="list-style-type: none"> • The buyer can provide documented evidence that <u>they have sold</u> at least 60% for restocking the required target percentage of its glass eels from the last season for the primary purpose of conservation / escapement. • The eels for restocking are representative of the stock – slow growers are not selected
Aspiring indicators	<ul style="list-style-type: none"> • The buyer can provide documented evidence that they <u>have reserved or made available at least 60%</u> of the required target percentage of its glass eels from the latest season available for the primary purpose of conservation / escapement, OR • The buyer can provide documented evidence that it has made available glass eels to the maximum level possible within the constraints of the implementation of the EMP in that country OR • The buyer can provide credible evidence that re-stocking will occur in the forthcoming season. • The eels for restocking are representative of the stock – slow growers are not selected
Discussion	<p>SW Eels handle around 200 kg of elvers per year. Of this, around 40 kg (20%) is directly restocked into to Severn. Of the balance (140 kg / 80%) is sold to UK Glass Eels, a SEG certified trader who sell 65 – 70% of their production for restocking in the UK (Northern Ireland) or the European Union (Sweden, Estonia and Poland). Therefore overall 72 – 80% of the original 200 kg is used for restocking. Evidence on both volumes and can be provided from both SW Eels as well as UK Glass Eels.</p> <p>At present (2020 – 2021) with negligible overseas trade in eels from the UK 100% of fish are being used for restocking.</p>
Score	Responsible

COMPONENT 6 – RESTOCKING

Criterion 6.1: Restocking is carried out in accordance with an approved EMP, in order to improve escapement to or above the 40% target and is approved by the relevant agency

Weighting: 1

Responsible indicators	<ul style="list-style-type: none"> The eel management plan is approved and the restocking is part of the agreed programme that should with reasonable confidence lead to the 40% escapement target being achieved in the future. Fishing of restocked eels does not have any measurable impact on escapement.
-------------------------------	---

Aspiring indicators	<ul style="list-style-type: none"> The management plan is approved and there is evidence that it is being implemented. The restocking is a part of the management plan. Fishing of restocked eels may have measurable impacts on escapement.
----------------------------	--

Discussion	<p>The UK published its Eel Management Plan (EMP) in March 2021 (Defra, 2010), both as a high level document and with a specific EMP for the Severn. It is currently being implemented (see ICES, 2018).</p> <p>Arahamian & Wood (2020) reviewed glass eel (<i>Anguilla anguilla</i>) exploitation in the Severn Estuary, England. Comparisons are made with studies in other estuaries and with conservation targets set by the EU Eel Regulation and the Eel Management Plan for the River Severn and determined that the fishery is not the main cause of the Severn river basin district (RBD) failing to meet escapement targets.</p> <p>Restocking is not currently part of the UK EMP. However, like any other fish restocking in England and Wales, formal restocking programmes can be undertaken with a permit from the Environment Agency. It is understood that SW Eels have applied for a permit and this is currently under consideration by the Environment Agency. These have since been issued: reference SP/EW107-P-213/20870/02 for the Severn and SP/EW070-O-578/20871/02 for the Avon.</p>
-------------------	---

Score	Aspiring
--------------	----------

Criterion 6.2: Survival and growth rates of restocked eels, and escapement from the system, can be estimated.

Weighting: 1

Responsible indicators	<ul style="list-style-type: none"> A monitoring programme calculates survival rates and growth rates of restocked eels such that there is good evidence that restocking is significantly enhancing eel biomass and contributing to escapement. There is active research on means of improving the restocking programme or restocking techniques.
-------------------------------	--

Aspiring indicators	<ul style="list-style-type: none"> A monitoring programme estimates survival, growth and escapement. The existing evidence suggests that restocking is enhancing eel biomass and contributing to escapement.
----------------------------	---

Discussion	<p>As discussed above in Criterion 6.2, restocking is not currently part of the UK EMP. However, like any other fish restocking in England and Wales, formal restocking programmes can be undertaken with a permit from the Environment Agency, and a permit has been issued.</p> <p>While information on numbers of glass eels entering large estuaries is limited, the CEFAS Publication, Dynamics of Glass Eels in the Bristol Channel 2012-2013 (Walmsley <i>et al.</i>, 2018) describes a comprehensive approach to the collection of fishery sample data for the Hinkley Point Nuclear Power Station. An analysis of the fishery effectiveness combined with data for escapement as a function of stocking data indicates that the impact of the glass eel fishery on silver eel output is between 6.3% – 0.2% (Arahamian <i>et al</i>, 2020). A conclusion is that there is a high probability that the recruitment supports an escapement to the seas of at least 40% of the silver eel biomass relative to the pristine estimate of escapement and that the fisheries are not preventing the Severn RBD from meeting its EU escapement target.</p>
Score	Aspiring

Criterion 6.3: The restocked area is suitable for eel growth, survival and escapement	
Weighting: 1	
Responsible indicators	<ul style="list-style-type: none"> • Ecological information suggests that the system into which eels are restocked is suitable eel habitat (e.g. type of water body, productivity, former presence of eels). • There are no significant barriers to escapement of silver eels from the system OR systems are in place which demonstrably allows a significant proportion of silver eels to circumvent these barriers (e.g. effective passes trap and transport). • Stocking is carried out at densities appropriate to the capacity of the environment (productivity, temperature).
Aspiring indicators	<ul style="list-style-type: none"> • It is reasonable to assume by analogy with other systems the system into which eels are restocked is good eel habitat. • If there are barriers to escapement of silver eels, plans are being put in place to allow a reasonable level of escapement which will be implemented in time to allow this restocking cohort to contribute to escapement. • Stocking is carried out at densities appropriate to the capacity of the environment (productivity, temperature).
Discussion	<p>Restocking activities only take place in the Severn River and its tributaries e.g. the River Avon. These are some of the best eel habitats in the UK and NW Europe, albeit with a historical loss of critical habitat and obstruction of migratory pathways that has had a significant impact on the eel population in the Severn RBD.</p> <p>There are no obstacles to silver eel escapement.</p> <p>The main approach and objective of SW Eels’ restocking programme is the recognition that migratory obstacles e.g. weirs etc are the main cause of reduced escapement and therefore mitigates this by transporting elvers into the lower catchment over the migration barriers, to emulate a natural migration through largely same day catch and release. Many migration barriers above are gradually having migration easements fitted, especially on the Severn, due to the Unlocking the Severn programme, so the catchment is becoming increasingly suitable to receive and produce more eels and slowly towards its natural state.</p>
Score	Responsible

Appendix A: Evidence log

Figure 1: Eel purchase log

Date	Fishermans no
20/3/21	597 -42
20/3/21	732 -2
21/3/21	732 234
22/3/21	597 1-27
20/3/21	273 1-3
20/3/21	874 -2
27/3/21	874 -4
28/3/21	732 -2
29/3/21	597 3-1
29/3/21	273 -55
30/3/21	729 -46
30/3/21	597 -4
1/4/21	732 -26
1/4/21	597 -2
1/4/21	874 -4
2/4/21	729 -85
3/4/21	523 -45
4/4/21	729 -8
4/4/21	523 -12
12/4/21	729 -4
12/4/21	597 -90
13/4/21	732 -3
13/4/21	597 1-1
14/4/21	732 -2

Figure 2: Purchase receipt

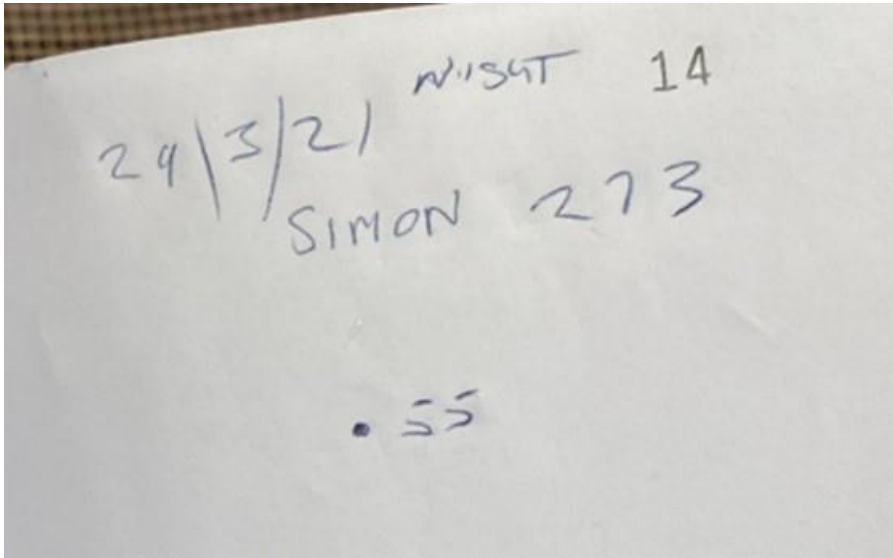


Figure 3: Aquaculture Production Business (APB) certificate

Authorisation to Operate an Aquaculture Production Business (APB)

South West Eels

Authorisation Number: **EW093-O-432A**

This authorisation document must be made available for inspection by the Cefas Fish Health Inspectorate.

This is to certify that

**South West Eels, 1 Popes Pool Cottage, Over, GLOUCESTER, Gloucestershire, GL2 8DB
(EE093-N-431)**

Is hereby authorised by the Cefas Fish Health Inspectorate (FHI) under the Aquatic Animal Health (England and Wales) Regulations 2009 to operate an Aquaculture Production Business (APB) at **South West Eels, 1 Popes Pool Cottage, Over, GLOUCESTER, Gloucestershire, GL2 8DB** grid reference **SO81201950**, subject to the details and conditions set out below:

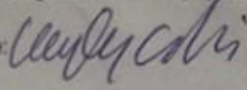
Details of Authorised Activity:

- 1) Trade in *Anguilla anguilla*


Authorisation conditions:

- 1) Operate in accordance with an approved, documented Biosecurity Measures Plan suitable for the reduction of risk of disease spread to, from and within the APB. This plan must be current and available for inspection by the FHI at all times.
- 2) Immediately notify the competent authority (FHI) on suspicion or knowledge of the presence of a listed disease in aquatic animals. Notify the FHI or nominated veterinarian of any increased, unexplained or unusual mortalities.
- 3) Maintain and make available for inspection records of the following:
 - i) All mortalities in each epidemiological unit as documented in the biosecurity measures plan.
 - ii) Health surveillance carried out by the business.
 - iii) Health surveillance carried out by the FHI.
- 4) You must obtain prior permission from the FHI for the introduction of a species not listed above. You must notify the FHI in advance of any other material changes to this authorisation.
- 5) Maintain records of all aquatic animals, live or dead, into and out of the authorised premises, in a format agreed with the FHI. Where animals are moved between authorised or registered businesses, the name and APB number source or receiving business must be included in those records.
- 6) Provide all reasonable help and access to the FHI and participate in a risk-based surveillance scheme, including assisting the inspection and sampling of any aquatic animals as required.
- 7) Take all necessary precautions to contain and to prevent the escape of aquatic animals.

- Failure to comply with legal obligations may result in prosecution under the Aquatic Animal Health (England and Wales) Regulations 2009
- The Registration is without prejudice to the application of other relevant legislation.

Signature:  Name of Authorised Signatory: **THOMAS CARLINS** Dated: **21 March 2018**

(On behalf of the Secretary of State for Environment, Food and Rural Affairs)



EW093-O-432-AUT1

Fish Health Inspectorate, Centre for Environment Fisheries and Aquaculture Science, Barrack Road, The Nothe, Weymouth, Dorset, DT4 8UB

TEL: 01305206700 Email: fhi@cefas.co.uk Web: gov.uk/cefas/fhi

Figure 4: SW Eels Transport Plan

Eel Transport Plan – South West Eels

This is a statement of the transport of elvers carried out by the South west Eels operation, for maximum care and minimum mortality.

Fishing

All fishing is by hand net, licensed by the Environment Agency and the fishery is SEG certified. Hand nets are the most sustainable form of fishing; the fish are caught very gently, and tipped carefully into elver trays. See photo of example of a dip net.



Elver trays

The elvers are held on the bank in these elver trays – rather like a sieve. The elvers are kept wet and due to their small size, can breathe through their skin. They can survive very well for several hours when kept wet and cool.

A maximum of 2kg are held in these trays. Elvers are held for a maximum of 4 hours, but more usually up to 1 hour and transported either to the release location on the river, or to the South west eels holding facility. See photo of elver tray.



Holding facility

At the holding facility (see photograph), the eels are gently tipped from the trays via the 2 sieve trays to filter out any shrimps. This is done (1) because they can bite the elvers and (2) to filter out the potential Invasive Shrimp. The elvers fall through the mesh in the tray into the tank.



Shrimp sieves



Release

The elvers are carried to the release location in the elver trays and released gently by submerging and the tray into the water.

General

At all stages, elver are kept wet, and are handled directly as little and gently as possible, to cause minimum damage and maximise survival.

Stephen Beard
South West Eels
16 April 2021

Appendix B: References

Aprahamian, M., & P. Wood (2020). Estimation of glass eel (*Anguilla anguilla*) exploitation in the Severn Estuary, England. *Fish Manag Ecol.* 2021;28:65–75. DOI: 10.1111/fme.12455

Aprahamian, M., P. Wood & J. Wood (2020). Glass Eel Tidal Population Severn Estuary. An analysis of recruitment, exploitation and escapement targets. UKGE/MAPW-V7.5/2020-002. 19 pp + appendices. https://ukglasseelscom.files.wordpress.com/2020/09/glass-eel-tidal-population-severn-estuary_mapw_v7.53_approved.pdf

ICES (2018). Report of the Workshop for the Review of Eel Management Plan Progress Reports (WKEMP), 17–19 July and 13–16 November 2018, Copenhagen, Denmark. ICES CM 2018/ACOM:46. 100 pp.

Unlocking the Severn programme. <https://www.unlockingthesevern.co.uk/>

Walmsley, S., J. Barry & J. Pettigrew (2018). Dynamics of glass eels in the Bristol Channel 2012 – 2013. EDF, Direction Production Ingenierie BEEMS Technical Report TR274.