

## **Eel Assessment – Aquacultuur Noord B.V.**

### **Assessment against:**

Component 1: Core requirements  
Component 4: Eel buying and trading  
Component 5: Eel farming

**Completed by**  
Richard Wailes

4<sup>th</sup> February 2019

### **FINAL REPORT**

#### **Introduction**

This document represents the report completed following the 2019 audit carried out under the Sustainable Eel Standard (Version 6.0, June 2018) against Aquacultuur Noord. This assessment has been completed against Components 1, 4 (part) & 5 of the Standard only.

The assessment is of an eel farm located in Groningen in northern Holland.

Aquacultuur Noord has been in operation since 2014 and has 52 tanks covering all stages of eel growth from glass eel to final sale as live eels at a size of 150g – 500g. In the last three years 129 tonnes, 75 tonnes and 134 tonnes have been produced.

#### **1. The assessment**

The assessor was Richard Wailes of Control Union Pesca Ltd, who visited Aquacultuur Noord on the 4<sup>th</sup> February 2019. The audit included an interview with Hans Falke, Owner.

The farm is 20 years old with a capacity of 250 tonnes per year. However in 2007 it was hit with a disease bought in by Glass eels from Portugal and in 2009 had to close.

In 2014 the farm was reopened and has been disease free since. It was rebuilt as an energy efficient operation with the majority of the power from solar panels and also all the hot water is from a heat transfer operation – the water is pumped from an 80 m well and goes through multiple filtration and treatment systems.

Now the operation is run by 2 staff with added input from a third when required and has a state of the art monitoring and control system which shows ongoing weights and FCRs as well as water quality parameters.

## 2. Client Contact Details

<b>Client Contact Name</b>	Hans Falke
<b>Client Address</b>	Traansterweg 15, 9356TM Tolbert, Holland
<b>Client Email</b>	Hans@aquacultuurnoord.nl
<b>Client Phone Number</b>	06 5431 1854

## 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 Aquacultuur Noord has scored the following for Component 1: General Requirements and therefore **should** be considered **RESPONSIBLE** under the SEG standard.

<b>Component 1: General Requirements</b>	<b>Auditor's findings</b>	<b>Weighting</b>	<b>Score</b>
1.1 Commitment to Legality	Responsible	1	1
1.2 Contribution to eel conservation projects	N/A	N/A	N/A
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	Responsible	1	1
1.5 Biosecurity & welfare – eel and eel products are provided with minimal risk of diseases, parasites and alien species	Responsible	1	1
Total		6	4
Percentage Responsibility Score:		67%	

That Aquacultuur Noord has scored the following for Component 4: Eel buying and trading and therefore **should** be considered **RESPONSIBLE (borderline)** under the SEG standard.

<b>Component 4: Eel buying and trading</b>	<b>Auditor's findings</b>	<b>Weighting</b>	<b>Score</b>
4.1 The glass eel holding facility is a registered aquaculture production business	Responsible	1	1
4.2 Mortality in storage facility	Aspiring	2	0
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	Responsible	1	1
Total		7	5/7
Percentage Responsibility Score:		71%	

That Aquacultuur Noord has scored the following for Component 5: Eel farming and therefore **should** be considered **RESPONSIBLE** under the SEG standard.

<b>Component 5: Eel farming</b>	<b>Auditor's findings</b>	<b>Weighting</b>	<b>Score</b>
5.1 The total mortality rate during the culture is low	Responsible	2	2
5.2 The fish meal/oil ingredients in the feed come from a responsible source	Aspiring	1	0
5.3 Feed is used as efficiently as possible	Aspiring	1	0
5.4 Water Quality	Responsible	1	1
5.5 There are minimal ecological impact from effluent discharge	Responsible	1	1
5.6 Grading, slaughter and transportation are carried out with respect to welfare	Responsible	1	1
5.7 The farm provides eel for restocking	Responsible	2	2
5.8 Eels for restocking are not graded out slow-growers	Responsible	2	2
<b>Total</b>		<b>11</b>	<b>9/11</b>
<b>Percentage Responsibility Score:</b>		<b>82%</b>	

### Summary of assessment and scoring

<b>Component</b>	<b>Aspiring</b>	<b>Responsible</b>
1	2	4
4	2	5
5	2	9
<b>Total</b>	<b>6</b>	<b>18</b>
<b>Total Responsibility Score</b>		<b>75%</b>

### Recommendations:

The operation has yet to find a regular supply of SEG certified eels and if it to continue with certification a commitment must be made to source these eels.

The Batch system based on the year is basic (but works) and perhaps this can be reflected on the invoices out though unique codes which will further help traceability. There is a comprehensive traceability system in place and this should be possible.

#### 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	Go to Q2
2	Has the client received a borderline <sup>1</sup> pass for a Component in its previous audit?	Enhanced Surveillance	Go to Q3
3	Does the client only buy and sell product (does not physically handle it?)	Minimum Surveillance	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 the 4<sup>th</sup> February 2021 (in 2 years' time) and shall be an on-site audit.**

<sup>1</sup> A borderline pass, under versions 1.0 to 5.0 of the standard, was considered a pass when one less amber indicator is received then would be required to fail (i.e. 5 green indicators and 4 amber indicators) or when a client is certified with equal number of amber and green indicators.

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

<b>Component 1 – Generic requirements</b>	
<b>Criterion 1.1: Commitment to legality</b>	
<b>Responsible indicators</b>	For at least the past two years: the organisation has not been found guilty for any offences relating to eel fishing or trading.
<b>Aspiring indicators</b>	For at least the past 12 months: the organisation has not been found guilty for any offences relating to eel fishing or trading.
Discussion	The client declared at the time of the assessment that there had not been any legal proceeding against the company under assessment in the past 2 years and that there were no ongoing investigations either.
Score	Pass: Responsible indicator
<b>Criterion 1.2: Contribution to Eel Conservation Projects. (Optional bonus score)</b>	
<b>Responsible indicators</b>	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.
<b>Aspiring indicators</b>	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	While the company contributes 0.02 EUR per kg of feed purchased, this has been done each year since 2010 to help fund eel conservation projects in the Netherlands and the EU, the yearly contributions are not sufficient to meet the requirements of this component and as an optional bonus score, no scoring is being applied for this element.
Score	N/A
<b>Criterion 1.3: The facility trades in certified responsibly sourced eel</b>	
<b>Responsible indicators</b>	The organisation trades in at least 50% (by number) of certified responsibly sourced eel and has the documentation to demonstrate that.
<b>Aspiring indicators</b>	The facility trades in 10 – 49.9% (by number) of certified responsibly sourced eel and has the documentation to demonstrate that.
Discussion	Figures were provided for the quantity of SEG fish purchased over the last 3 seasons, varying from year to year, 0%, 18% and 37% for the years 2017, 2018 & 2019 respectively. Therefore, the company has averaged 20.4% of SEG fish (by weight) coming into the company for the last 3 years.
Score	Pass: Aspiring indicator
<b>Criterion 1.4: Traceability</b>	

1.4.1: Traceability - Incoming product, separation and segregation	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>• Certified and uncertified eel products can be clearly and easily traced back to their source.</li> <li>• Where a fishery or buyer, an electronic tele-declaration system is used</li> <li>• It operates a clear system which ensures that the product remains separated at all stages from arrival to dispatch from non-certified eel products.</li> <li>• The organisation ensures that any products wishing to make a claim as certified do not contain any non-certified eel-based ingredients.</li> <li>• If resolved through mass- or number- balance calculations, the margin of error does not exceed 2%</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>• Certified and uncertified eel products can be traced back to their source.</li> <li>• It operates a system which ensures that the product remains separated at all stages from arrival to dispatch from non-certified eel products.</li> <li>• The organisation ensures that any products wishing to make a claim as certified do not contain any non-certified eel-based ingredients</li> </ul>
	<ul style="list-style-type: none"> <li>• If resolved through mass- or number- balance calculations, the margin of error does not exceed 5%</li> </ul>
Discussion	Only the year is currently kept certified so all years to date have been a mixture of SEG and non SEG but all eels can be traced through their year documentation (2015, 2016, 2017 & 2018 eels still in stock). Product is clearly segregated and can be traced back to source (basically four suppliers – Civelle Durable, Gurruchaga Maree, UK Glass eels & Aquabueira) over the last 4 years)
Score	Pass: Aspiring indicator
1.4.2: Traceability - Outgoing product	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>• Where a fishery or buyer, an electronic tele-declaration system is used</li> <li>• Documentation is well maintained with a maximum of 2% error in the following:</li> <li>• 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</li> <li>• 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"> <li>- Includes an appropriate batch code</li> <li>- Includes a record of the quantity (no. &amp; weight) of product and to whom it was sold</li> </ul> </li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>• Documentation is well maintained with a maximum of 5% error in the following:</li> <li>• 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</li> <li>• All products to be sold as certified by an organisation are accompanied by an invoice which meets the following criteria:               <ul style="list-style-type: none"> <li>- Includes an appropriate batch code</li> <li>- Includes a record of the quantity (no. &amp; weight) of product and to whom it was sold</li> </ul> </li> </ul>

Discussion	Nothing is placed on the invoices currently regarding Batch numbers but product is identified through year – a maximum of 5% error between estimate and actual kgs. All product sales are recorded and product is traceable through the tank documentation.
Score	Pass: Aspiring indicator
<b>1.4.3: Traceability - Record keeping and documentation</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>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</li> <li>If a fisherman or buyer, a tele-declaration system is used to report catches and trade</li> <li>The organisation operates a system that also allows for the completion of a batch reconciliation of eel product by weight over a given period.</li> <li>The organisation maintains records for a minimum of three (3) years.</li> </ul>
<b>Aspiring indicators</b>	<p>The above requirements are met except that:</p> <ul style="list-style-type: none"> <li>Records have been maintained for less than three (3) years</li> <li>If a fisherman or trader, a tele-declaration system is planned to be used to report catches and trade in the next season</li> </ul>
Discussion	Records are present for more than 3 years to date. Eels received from a SEG source are also accompanied by batch numbering from the supplier and usually a declaration list which identifies the fishermen and quantities of fish purchased to form the batch. All records for purchases and sales of fish are maintained for a minimum of 7 years as with all other accounts in accordance with Netherlands regulation. The growth of fish is monitored regularly through grading and therefore weight of fish within separate systems is monitored closely between systems. However it must be noted that all fish whether SEG or not are mixed in a year batch so whilst individual inputs cannot be reconciled the whole year batch can be.
Score	Pass: Aspiring indicator
<b>Criterion 1.5: Biosecurity &amp; welfare – Eel and eel products are provided with minimal risk of diseases, parasites and alien species</b>	
<b>Eel Fishing: Biosecurity measures are adopted</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>The fishery conducts good biosecurity measures such as the disinfection and drying of nets and equipment between each fishing in different waters. OR:</li> <li>The fishermen only operate in the same river or estuary, with no risk of transferring diseases or alien species between catchments</li> </ul>
<b>Eel buying &amp; trading: Biosecurity is present and disease is treated rapidly and appropriately</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>The use of chemicals follows legal requirements of the appropriate EU regulations and of the country concerned.</li> <li>The facility has the appropriate permissions to operate from the relevant licensing authority</li> <li>An effective and documented biosecurity plan is in place and there is evidence that it is being followed.</li> </ul>

	<ul style="list-style-type: none"> <li>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.</li> <li>Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility.</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>The use of chemicals follows legal requirements of the appropriate EU regulations and of the country concerned.</li> <li>The facility has the appropriate permissions to operate from the relevant authority</li> <li>An effective and documented biosecurity plan is in place and there is evidence that it is being followed.</li> <li>Eels are regularly monitored for health and possible signs of stress (although this might not be documented) and daily mortality is recorded.</li> <li>Records are maintained according to the Medicines Regulations for use of any medicines and/or chemicals used in the facility.</li> </ul>
<b>Discussion</b>	<p>The facility has the appropriate permissions and Environmental licences by the Netherlands Authorities to operate as an aquaculture facility. Chemicals used at the facility are for cleaning and balancing of pH within the water systems. All waste water departing from the facility meet the legal requirements of the EU and Netherlands before leaving the facility. No chemicals used are outside those permitted and within the legal requirements of the EU of the Netherlands.</p> <p>A daily log is kept for each system throughout the farm by the manager for all water quality parameters, general fish health, and monitoring of eating rates to check for signs of stress. This is part of the online system.</p> <p>Security at the facility, as part of the documented biosecurity plan, prohibits access to the facility for all persons other than staff if there is not prior guidance from the management. Suppliers and transported staff and vehicles are never allowed access to inside the buildings with eels being unloaded outside into facility equipment and loaded into transportation vehicles by the facility as well. Spoiled water from a transport is pumped directly into the sewage system to ensure no mixing with water sources from the facility.</p> <p>Eels arriving at the facility are placed in separate systems to eels already present at the facility as a form of quarantine and a full parasite check takes place. The facility usually uses pH as a form of controlling disease outbreaks (currently 3.95) through the use of Sodium Hydroxide (100litres/ week). Should any signs of disease be noted by staff, they are to contact the Manager/owner Hans for referral. Medication at the facility is monitored by Hans Falke and any medication prescribed by a vet is only administered by Hans Falke. There is no use of antibiotics at all and the only medicine used is Mebendazole (MBZ) for gill parasite treatment.</p>
<b>Score</b>	Pass: Responsible indicator
<b>Restocking: The risk of restocked eels introducing disease into wild populations has been assessed and is minimal</b>	
<b>Responsible indicators</b>	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.
<b>Aspiring indicators</b>	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	Depending on the client, the testing may or may not be required of the facility. In the instance of Czech clients, this is normally requested and is completed by the institute in Lelystad. In all cases it is always the intention of the facility to provide eels which are free of disease in all instances.
Score	Pass: Aspiring indicator

<b>Component 4 - Eel buying and trading</b>	
<b>Criterion 4.1: The Glass eel holding facility is a registered Aquaculture Production Business</b>	
<b>Weighting: 1</b>	
<b>Responsible indicators</b>	The Glass eel holding facility is a registered Aquaculture Production Business
<b>Aspiring indicators</b>	The facility is not a registered Aquaculture Production Business, but has credible plans to register within the next 6 months
<b>Discussion</b>	The organization has a TRACES number which is the approved number and is registered.
Score	Pass: Responsible indicator
<b>Criterion 4.2: Mortality in storage facility</b>	
<b>Weighting: 2</b>	
<b>Responsible indicators</b>	Mortality rate over the season is less than 2% on average.
<b>Aspiring indicators</b>	Mortality rate over the season is less than or equal to 5% on average but greater than or equal to 2%
<b>Discussion</b>	Mortality rates are normally low but in 2017 there was an outbreak of redhead virus. In 2016 186kgs of eels died, in 2017 11,104kgs died and in 2018 540kgs died giving an average of 3.5% On the glass eels the mortality rate was 1kg out of 400kg – negligible.
Score	Pass: Aspiring indicator
<b>Criterion 4.3: Mortality during transport and initial holding if transported to farm</b>	
<b>Weighting: 2</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>Buyers source at least 90% of their eels from certified suppliers OR</li> <li>Mortality during transport and for the first week at the farm is less than 2% on average</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>Buyers source 50% - 89.9% of their eels from certified suppliers OR</li> <li>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.</li> </ul>
<b>Discussion</b>	As mentioned mortality rates during transport and initial glass eel holding are minimal (less than 0.25%). Note that in the last three years the amount of SEG eels purchased was averaging 20.4%. This will improve once more approved suppliers are in place.
Score	Pass: Responsible indicator

Criterion 4.4: Water quality	
<b>Weighting: 1</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>• 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)</li> <li>• Water quality management procedures are in place including regular monitoring of relevant parameters which shows that water quality is always high and stable</li> <li>• 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</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>• 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)</li> <li>• The facility has a minimum of a back-up generator and oxygen supply</li> </ul>
<b>Discussion</b>	<p>Test monthly for nitrates and COD, BOD and there is also an online monitoring system with Oxygen back up facilities.</p> <p>Full records are held (computerized and manual)</p>
Score	Pass: Responsible indicator
Criterion 4.5: Handling and welfare	
<b>Weighting: 1</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>• Systems are in place and the facility is designed to keep handling to an absolute minimum</li> <li>• Documented procedures are in place for handling, and handling, where necessary, is careful</li> <li>• 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)</li> <li>• Eels are moved without being allowed to dry out.</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>• 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</li> <li>• Handling, where necessary, is carefully planned and executed</li> <li>• The infrastructure has been optimised as far as possible to avoid injuries</li> <li>• Nets are small-mesh (1mm maximum)</li> <li>• Eels are moved without being allowed to dry out.</li> </ul>
<b>Discussion</b>	<p>All eel movements in farm are through an automated system of piping in water and grading with no manual handling.</p> <p>The farm is well designed with a good process flow.</p> <p>There are no documented procedures in place but it was evident that training had been given and this were verified during the on-site audit</p>
Score	Pass: Responsible indicator

## Component 5 – Eel farming

### Criterion 5.1: The total mortality rate during the culture process is low

<b>Weighting: 2</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>The Percentage Mortality Rate of eels in culture is less than or equal to 10% on average in the current and previous year OR as an average of the previous five years</li> <li>An accurate daily log is maintained of the number and causes of mortality</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>The Percentage Mortality Rate of eels in culture is between 10 and 15% on average in the current and previous years OR as an average of the previous five years.</li> <li>An accurate daily log is maintained of the number of mortalities</li> </ul>
<b>Discussion</b>	<p>Mortality rates are normally low but in 2017 there was an outbreak of redhead virus. In 2016 186kgs of eels died, in 2017 11,104kgs died and in 2018 540kgs died giving an average of 3.5%.</p> <p>Glass eel mortality for the last two years was also less than 1% and this is shown in the Glass Eel log.</p>
<b>Score</b>	Pass: Responsible indicator
<b>Criterion 5.2: The fish meal/oil ingredients in the feed come from a responsible source</b>	
<b>Weighting: 1</b>	
<b>Responsible indicators</b>	Fish meal/oil in the feed (including juvenile feeds) is certified by IFFO or MSC or shown in some other way to be from responsible or sustainable sources
<b>Aspiring indicators</b>	Fish meal/oil in the feed (including juvenile feeds) is not certified by IFFO or MSC or shown to be from responsible sources, but there are credible plans to move to such a supplier within 2 years
<b>Discussion</b>	All feed is sourced from either Skretting or BioMar, these companies were contacted and results are awaited but both have confirmed previously that their meal was from sustainable sources. It is not MSC or IFFO certified currently. It was noted that the Cod Roe used for the first two-four weeks of glass eel feeding came from Varia Vis in Urk and was MSC certified (a maximum of a tonne is purchased annually)
<b>Score</b>	Pass: Aspiring indicator Pending
<b>Criterion 5.3: Feed is used as efficiently as possible</b>	
<b>Weighting: 1</b>	
<b>Responsible indicators</b>	The average feed conversion ratios in the farm are as follows: glass eel to fingerlings: 1.1 or less fingerlings to 200g: 1.6 or less large eels: 2.0 or less
<b>Aspiring indicators</b>	The average feed conversion ratios in the farm are as follows: glass eel to fingerlings: 1.3 or less fingerlings to 200g: 1.8 or less large eels: 2.2 or less
<b>Discussion</b>	<p>Aquacultuur Noord records (3 years) show the FCR as</p> <p>2017 – overall FCR of 1.30</p> <p>2018 – overall FCR of 1.33</p> <p>2019 – overall FCR of 1.33</p>

	Note that the farm does not differentiate between glass eels, fingerlings and larger eels though detailed analysis can be obtained for each size group
Score	Pass: Aspiring indicator
<b>Criterion 5.4: Water quality</b>	
<b>Weighting: 1</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>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)</li> <li>Water quality management procedures are in place including regular monitoring of relevant parameters which shows that water quality is always high and stable</li> <li>Water quality monitoring is linked to an alarm-based system in the event of a sudden drop in water quality</li> <li>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.</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>A system is in place that is expected to keep key water quality parameters within suitable tolerances (e.g. Ammonia, Suspended Solids, pH, Oxygen)</li> <li>Water quality management procedures are in place and there is regular monitoring of relevant parameters which shows that water quality is always high and stable.</li> </ul>
<b>Discussion</b>	<p>A system is in place where by water is taken from a deep well on site (80m) before use in the separate recirculation systems. The water parameters for each system are monitor by automated computer systems which observes: pH, temperature, oxygen and feed rates. Water level systems are present on each tank separately. Visual monitoring and manual pH and oxygen testing are also done in each tank. The pH of the water for each system is altered automatically to ensure it remains constant. This can be manually modified when eels display any signs of stress from a possible increase in pathogens in the water.</p> <p>All systems and parameters which are monitored by the computer systems are also connected to an alarm system which notifies the manager, Hans Falke. The facility is manned 24 hours per day. The facility has 1 backup power generator in case of power failure from the grid. This has a capacity of 450kVA which is ample to cover the power requirements of the facility. In addition to this, Oxygen reserves are kept at the facility in case, any of the system require immediate saturation should one of the oxygenation systems fail or require maintenance.</p>
Score	Pass: Responsible indicator
<b>Criterion 5.5: There are minimal ecological impacts from effluent discharge</b>	
<b>Weighting: 1</b>	
<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>The system is closed-circuit and has no discharge OR</li> <li>Effluent discharge is regularly tested by the farm AND</li> <li>Effluent discharge complies with all local and national requirements AND</li> <li>Has not been found to be non-compliant in the past 5 years.</li> </ul>

<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>• Effluent discharge is regularly tested by the farm AND/OR</li> <li>• Has been found to be non-compliant on no more than 1 occasion in the past 5 years.</li> </ul>
<b>Discussion</b>	The system is closed circuit (multiple filtration systems in place – Bio & UV) and has no discharge with any solids going to a septic tank which is emptied by local farmers for use as manure. Effluent discharges are tested and comply with all the regulations
<b>Score</b>	Pass: Responsible indicator

**Criterion 5.6: Grading, slaughter and transportation are carried out with respect to welfare**

**Weighting: 1**

<b>Responsible indicators</b>	<ul style="list-style-type: none"> <li>• Grading is completed in an efficient manner</li> <li>• Slaughter is completed by a method that provides an instant death or renders them insensible to pain, i.e. electric stunning or percussive stunning.</li> <li>• Procedures are in place to ensure transportation provides suitable conditions for fish welfare.</li> </ul>
<b>Aspiring indicators</b>	<ul style="list-style-type: none"> <li>• Other, previously acceptable methods of stunning before slaughter are used, e.g. chilling, but there are credible plans in place to invest in the latest methods within the next 2 years</li> </ul>
<b>Discussion</b>	Grading is carried out regularly by the staff. This is done through emptying of tanks using pipe systems and automated graders to limit handling of the fish. Cooling before transport is carried out in separate tanks following grading where eels are lowered in temperature gradually from 25c to around 14c over 3-4 days to habituate and purge eels prior to final weighing, loading and transportation. No eels are slaughtered on site
<b>Score</b>	Pass: Responsible indicator

**Criterion 5.7: The farm provides eel for restocking**

**Weighting: 2**

<b>Responsible indicators</b>	The farm can provide documented evidence that 10% or more of the farm's annual eel production (by piece) <u>has been provided</u> for restocking for the purpose of conservation / escapement.
<b>Aspiring indicators</b>	The farm can provide documented evidence that it makes 10 % of their annual eel production (by piece) <u>available</u> for restocking for the primary purpose of conservation / escapement AND/OR for new clients, the farm can demonstrate that they have bookings for re-stocking in the following year at more than 10% of the predicted annual eel production (by piece) for the purpose of conservation / escapement.
<b>Discussion</b>	The farm has provided receipts for the quantity of glass eels sold for restocking over the past year. This was 330,000 3g eels sold to the Czech Republic in 2018 (and the same for the previous two years). This has accounted for 38%, 65.7% and 37% from 2016-2018 respectively for restocking from the quantity of eels produced by the farm.
<b>Score</b>	Pass: Responsible indicator

**Criterion 5.8: Eels for restocking are not graded out slow-growers**

<b>Weighting: 2</b>	
<b>Responsible indicators</b>	The size range and quantities in the eels for restocking reflect 100% that for the age group in the whole farm
<b>Aspiring indicators</b>	The size range and quantities indicate no more than a 25% supplement of those for restocking are from slower growing fish of the same age group.
<b>Discussion</b>	Grading is only done to separate out fish to prevent larger fish from damaging or bullying smaller fish and therefore preventing them from feeding. All fish designated for restocking are sent regardless of size and are normally all below 10 grams on average or one year old when sent.
<b>Score</b>	Pass: Responsible indicator