

Case No:	2021-0258	Date of visit:	16/09/2021			
Time spent on site:	8 hours	Main Inspector:				
Site No:	FS1342	Site Name:	West Strome			
Business No:	FB0169	Business Name:	The Scottish Salmon Company			
Case Types:	1 DIA	2 WEL	3	4	5	6
Water Temp (°C):	13.7	Thermometer No:	T148	FHI 045 completed		
Observations:	Region:	HI	Water type:	S	CoGP MA	M-20
Dead/weak/abnormally behaving fish present?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="checkbox"/>					

UNI/REG only - if unable to carry out intended visit detail reason below:

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**Additional Case Information:**

Records checked remotely by [REDACTED] accompanied by [REDACTED]. Inspection and sampling by [REDACTED], accompanied by [REDACTED] and APHA. 9 pens left stocked on date of site visit (16/09/21). 2 pens harvested on 7th, 1 on 8th and another 1 on 11th. Fish were performing well until recently. The stocks were transferred from Portree in January 2021. Mortalities are normally removed by Uplift systems and stored in skips at the shorebase for disposal. Mort transfer is by Billy Bowie, usually to Dundas Bros. The recent increase in morts has resulted in removal by contractors using Uplifts and brails. The increase in mortalities is also being transported in tankers following removal by boat via Kishorn. Discussed biosecurity issues with compromised brail and improvements were indicated. Low presence of CMS detected in some fish from PCR samples in August and cage 1 has since been harvested out as a precaution.

Treated with SLICE in January, March, May and July. Had freshwater treatment in May and pen 13 in August. Also freshwater/salmosan treatment in two pens (9 & 16) in August. Optilicer in early July, and hydrolicer in early August then early September. Planning hydrolicer again in week 38. The site has been combatting unanticipated higher settlements of Chalimus and Pre-adult lice and are trying to prevent a build up of adult stages, although lice numbers have increased recently and lice damage is evident on a number of fish. Received veterinary advice in early September to conduct a treatment to combat sea lice accepting the potential mortality in fish which had been affected by the suspected micro jelly bloom which occurred in mid-August. Moribund fish present in all cages with cages 10 and 11 currently the worst affected. These cages are to be harvested out in week 38. Rest of cages will receive a Hydrolicer treatment. Pens are also receiving aeration.

Case No: **2021-0258** Site No: **FS1342**  
 Date of Visit: **16/09/2021** Inspector(s): **[REDACTED]**

**Registration/Authorisation Details**

- 1. Business/site details summary checked by site representative? **Y**
- 2. Changes made to details? **N**

**Site Details (include cleaner fish for all sections)**

Total No facilities	<b>16</b>	Facilities stocked	<b>13</b>	No facilities inspected	<b>16</b>
Species	<b>SAL LUM</b>				
Age group	<b>2020 S0 input 2021</b>				
No Fish	<b>366,872</b>	<b>54,000</b>			
Mean Fish Wt	<b>3 Kg</b>	<b>0.05 Kg</b>			
Next Fallow Date (Site)	<b>Spring 2022</b>		Next Input Date (Site)	<b>Autumn 2022</b>	
Recent (last 4 wks) disease problems?		<b>Y</b>	Any escapes (since last visit)?		<b>N</b>
If yes, detail:	<b>Gill issue following suspected micro jelly bloom suspect Lizzia blondina sp.</b>				

**Movement Records**

- 1. Movement records available for inspection? **Y**
- 2. Date of last inspection: **28/07/2021**
- 3. Are records complete and correctly entered? **Y**
- 4. Are movement records available for dead fish and waste? **Y**
- 5. Are records complete and correctly entered? **Y**
- 6. Are health certificates for introductions (outwith GB) available? **N/A**

**Transport Records**

- 1. Are any movements carried out by (or on behalf) of the business (not using a STB)? **[REDACTED]**
- If yes, is there a system in place for maintenance of transportation records? **[REDACTED]**

**Mortality Records**

- 1. Mortality records available for inspection? **Y**
- 2. How are mortalities disposed of? **Whole fish - Dundas Chemicals**
- If other detail: **[REDACTED]**
- 3. Mortality records complete and correctly entered? **Y**
- 4. Recent mortality (last 4 wks): **Mortality wk33:0.14%, wk34:0.29%, wk35: 4.54%. Wk36:6.57%(to10/09/21)**
- 5. Evidence of recent increased/atypical mortalities? **Y**
- If yes, facility nos/no mortality per facility/no stock per facility/reason:  
**Compromised gills and husbandry operations wk36 pen 1 10.98%, pen 9 16%, pen 14 31% (across site ranging from ~1% - 31% per cage. Prior to issue in August morts ranging from 0.06 - 0.29% per cage/week.**
- 6. Any other peaks in mortality during period checked? **Y**
- If yes, detail: **0.82% following husbandry operations in week 32**
- 7. Have increased (unexplained) mortalities been reported to vet or FHI? **N/A**
- If yes, detail action: **[REDACTED]**
- 8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet. **Y**

**Treatments and Medicines Records**

1. Recent treatments (see comment)?  Y

If yes, detail: T.M.S., Salmosan, Slice

If other, detail:

2. Medicines records available for inspection?  Y

3. Are records complete and correctly entered?  Y

4. Are fish in a withdrawal period?  Y

5. If yes, what treatment(s)? T.M.S.

If other, detail:

6. Are medicines stored appropriately?  Y

**Biosecurity Records**

1. Biosecurity records available for inspection?  Y

2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?  Y

3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any *increased (unexplained)* mortality at the site been included?  Y

4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?  Y

5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?  Y

6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?  Y

7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?  Y

8. Have the biosecurity procedures been adequately implemented on site?  N

If no, detail: Large biomass mortality removal procedures allowed a breach of mortality containment.

**Results of Surveillance**

1. Has any animal health surveillance been carried out by, or on behalf of, the business?  Y

2. If yes, are results available for inspection?  Y

3. Any significant results?  Y

If yes, detail (if not detailed under recent disease problems). Some AGD present but not causing problem,

Records checked between: 01/01/21 - 10/09/21

Case no:  Site No:  Date of visit/  
Sampling:

Priority samples: VI  BA  PA  MG  HI

Time sampling starts/ends:   Inspector:  VMD No.

Environmental conditions: 1  2  3  4  5

Summary samples HIST  BA  MG  VI  PA  Total Samples

**Add Fish/Pools - click**

	Pool/Fish No	F1	F2	F3	F4	F5	P1						
	Fish nos	1	2	3	4	5							
	Pool Group	P1	P1	P1	P1	P1							
	Species	SAL	SAL	SAL	SAL	SAL							
	Average weight	3Kg	3Kg	3Kg	3Kg	3Kg							
	Sex	N/A	N/A	N/A	N/A	Male							
	Water Type	SW	SW	SW	SW	SW							
Stock Details	Stock Origin	Portree (FS0708)	Portree (FS0708)	Portree (FS0708)	Portree (FS0708)	Portree (FS0708)							
	Facility No	10	10	10	10	10							

09/2021 Additional Sample Information:

Total Tests assigned


Case no: 2021-0258

Site No: FS1342

Method of killing: Anaesthetic

Date of visit: 16/09/2021

Inspector(s):

Sheet Relevant: Y

S for strong presence: M for medium presence: W for weak presence

Fish Number		1	2	3	4	5				
Time sampled after death (if > 45 minutes)				1 hr	1 hr	1 hr				
External Signs										
Behaviour	Moribund	S	S	S	S	S				
	Lethargic	S	S	S	S	S				
	Hanging vertical									
	Spiralling									
	Flashing									
	Loss of equilibrium									
Body	Dark					M				
	Distended abdomen									
	Anorexic									
	Scale Oedema									
Opercula	Shortened									
	Flared									
Haemorrhaging	Throat									
	Ventrum	M	S	M	M	M				
	Base of fins									
	Elsewhere									
Eyes	Exophthalmic									
	Enophthalmic (sunken)									
	Cataract									
	Haemorrhagic									
Gills	Pale	S	M	W	W	W				
	Zoned		M		W	W				
	Necrotic									
Lesions	Flank									
	Elsewhere									
Vent	Inflamed									
	Trailing faeces									
Lice Load	Estimate numbers									
Internal Signs										
Ascites	Clear									
	Bloody	M								
Oedema	In tissues									
Heart	Pale/anaemic									
	Granulomas									
	Deformed									
Liver	Petechial haem									
	Gross haem									
	Tissue breakdown									
	Enlarged									
	Colour number(s)	2	4	4	3	3				
	Granulomas									
	Lesions									
Pyloric caeca	Petechial haem				M					
	Tubules mauve					M				
	Lack of fat									
Spleen	Enlarged	W								
	Granulomas									
Gut	No food present	S	S	S	S	S				
	Yellow pseudo-faeces	S	S			S				
	External haem									
	Internal haem									
Body wall	Haemorrhaging									
Swim bladder	Haemorrhaging									
	Fluid filled									
Kidney	Swollen									
	Grey									
	Granular									
	Liquefied									
General	Parasites present									
	Anaemia									

Case no: 2021-0258

Date of visit: 16/09/2021

S for strong presence: M for medium presence: W for weak presence

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General	Parasites present								
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Additional comments:

F1 - Flaccid heart, F4 - photo of pyloric ceaca, F5 - mature male grilse

Case Number:		2021-0258	Site No:		FS1342	Insp:	
Date of Visit		16/09/2021	No of movements/supp./dest.				Score
Live fish movements			0	1-5	6-10	>10	
Movements on (from out with GB) of susceptible species	Frequency of movements on from equivalent MS	0	5	10	14		
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26		
	Number of suppliers	0	5	10	14		
Movements off	Frequency of movements off	0	3	6	10	10	
	Number of destinations	0	3	6	10	3	
Exposure via water		Site contacts		0	1-5	6-10	
Water contacts with other farms (holding species susceptible to same diseases)	Farm is protected (secure water supply through disinfection or borehole)	0					
	Farm is on-line or in a coastal zone with category I farms upstream or within 1 tidal excursion	1	2	4		1	
	Farm is on-line or in a coastal zone with category III farms upstream or within 1 tidal excursion	1	3	6			
	Farm is on-line or in a coastal zone with category V farms upstream or within 1 tidal excursion	1	4	8			
Management practices		None	Secure	Unsecure			
Water contacts with processors	Any processing plant discharging into adjacent waters	0	1	2		0	
On farm processing within the rules of the directive	No on farm processing	0				0	
	Processing own fish (re-cycling risk)	1					
	Processing fish from MS of equivalent status	2					
	Processing fish from zone or compartment of equivalent status	4					
	Processing fish from Category III farm	8					
	Processing fish from Category V farm	10					
Disposal of fish and fish by-products	Site's own waste only processed.	0					
	Common processes with other farms	3				3	
	Collection point for waste from other farms	5					
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0	
	Feeding unpasteurised feed	5					
Biosecurity		Number of sites		1	2 or 3	≥ 4	
Contacts with other sites	Sites operating from single shorebase	0	1	2		1	
	Sites sharing staff and equipment	0	1	2		1	
Disinfection of equipment between sites, use of footbaths etc	Yes	0				0	
	No	1					
CoGP/Regulator							
Practices in accordance with regulator or industry code of practice	Yes	0				0	
	No	3					
Platform access to cages	Yes	0				0	
	No	2					
<b>Total Rank</b>						<b>19</b>	

Site No: FS1342

Case No: 2021-0258

Nature of non-compliance:

Action taken (FHI):

Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology

Case No: 2021-0258 Date of visit: 16/09/2021  
 Site No: FS1342 Inspector: [REDACTED]

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2 <sup>nd</sup> Insp
AGD PCR	1/5	24/09/2021		23/09/2021		23/11/2021		
P. theridion, Salmon poxvirus PCR	5/5	24/09/2021		23/09/2021		23/11/2021		
IPN, IHN, ISA, VHS, SAV PCR	0/1	24/09/2021		23/09/2021		23/11/2021		
VSPE Kidney F1-3 & 5	4/5	14/10/2021		14/10/2021		23/11/2021		
VSPE Kidney F1 & 3	2/5	14/10/2021		14/10/2021		23/11/2021		
VSPE Kidney F2	1/5	14/10/2021		14/10/2021		23/11/2021		
Histo GPAT	5/5	14/10/2021		14/10/2021		23/11/2021		
Histo SPVH	1/5	14/10/2021		14/10/2021		23/11/2021		
Histo PLAN	1/5	14/10/2021		14/10/2021		23/11/2021		

Report Summary			
Case Type	Date	Insp	2 <sup>nd</sup> Insp
DIA	23/11/2021		

# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0169	<b>DATE OF VISIT</b>	16/09/2021
<b>SITE No</b>	FS1342	<b>SITE NAME</b>	West Strome
<b>CASE No</b>	20210258	<b>INSPECTOR</b>	[REDACTED]

### Section 1: Summary

The above site was inspected in conjunction with a veterinary officer from the Animal and Plant Health Agency (APHA) following a report of a potential welfare issue and a report of increased mortality by the farm operator. A separate report will be issued by the Animal and Plant Health Agency. During the physical inspection of all epidemiological units, five fish were removed for diagnostic sampling.

Histopathology examination revealed mild gill pathology, with one fish displaying evidence of salmon gill poxvirus and another fish had a plankton-like structure on the gill. Due to the gill health issues observed on site, samples were screened for *Neoparamoeba perurans*, salmon gill poxvirus (SPGV) & *Paranucleospora theridion* (syn. *Desmozoon lepeophtherii*) by QPCR and tested positive for all three pathogens.

A *Vibrio* sp. was identified from kidney material from Fish 1 – 3 and 5, however, the level of growth of this isolate was significant but the purity would not suggest it would be implicated as a primary pathogen. A second *Vibrio* sp. was identified from kidney material from Fish 1 and 3 and a third *Vibrio* sp. was identified from the kidney material of Fish 2.

Please contact myself or the duty inspector should you require any further information, have any queries regarding this report or if any problems develop.

### Section 2: Case Detail

#### Observations

The site had taken veterinary advice to undertake husbandry operations to reduce the sea lice burden at the beginning of September. This had resulted in an increase in morbidity and mortality in the stocks which had been recovering from a gill health issue which had occurred in August.

During the site inspection it was evident that a significant proportion of the fish were moribund and some were demonstrating evidence of lesions due to sea lice. Four cages of fish had been harvested between the 7<sup>th</sup> and 11<sup>th</sup> of September. Two cages were observed to be affected to a greater extent than others and these were scheduled for harvest in the week following the inspection. A number of moribund fish were removed for examination and five were chosen for diagnostic sampling.

Clinical signs of disease included morbidity and lethargy present in all 5 fish sampled. All five fish also had haemorrhaging on the ventrum and pale gills. There was also zonation of the gills of fish 2, 4 and 5. Fish 5 was a mature male grilse.

Internally, no food was evident in the gut of the five fish and pseudo-faeces was present in the gut of Fish 1, 2 and 5. Fish 1 had some bloody ascites within the body cavity, an enlarged spleen and a flaccid heart. Petechial haemorrhaging of the pyloric caeca was evident in Fish 4 and Fish 5 had inflammation in the tubules of the pyloric caeca.

### Records

The information required for the public record of aquaculture production businesses regarding this site was verified and where necessary updated. The following records were also inspected remotely to ensure that the conditions of authorisation for your Aquaculture Production Business (APB) are being met:

Mortality records were inspected and found to be adequately maintained.

Mortality levels had exceeded the reporting criteria since the last inspection and had been reported to the Fish Health Inspectorate as required.

Reports detailing the results of animal health surveillance carried out by or on behalf of the business and/or Marine Scotland were available for inspection.

The biosecurity measures plan for the site was inspected and found to be inadequately implemented. A separate letter will be issued regarding this issue.

### **Inspection under the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2015**

Medicine records were inspected and found to be adequately maintained.

### Samples

Samples were collected from five fish according to the table below:

Fish number	Pool number	Facility number	Species	Stage	Origin
F1 - 5	P1	10	Atlantic salmon	2020 S0 Grower 3 Kg	Portree

### Results

**Bacteriology:** Kidney and gill material from Fish 1 – 5 were inoculated onto appropriate media for the isolation of bacteria.

A *Vibrio* sp. was identified on plates taken from kidney material of fish 1-3 and 5. The level of growth of this isolate was significant, however, the purity would not suggest it would be implicated as a primary pathogen.

A second isolate of *Vibrio* sp. was identified on plates taken from kidney material of fish 1 and 3 and a third *Vibrio* sp. was identified on plates taken from kidney material of fish 2. The level of growth and purity would not suggest these would be implicated as primary pathogens.

R09

**Virology:** Tissue samples were tested for segments of nucleic acid indicative of the presence of the pathogens specified below using real-time PCR (qPCR).

Salmon gill poxvirus (SGPV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.59	24.39	24.54	24.57	POSITIVE
F2	20.16	24.01	24.15	24.38	POSITIVE
F3	19.92	24.28	24.35	24.30	POSITIVE
F4	19.68	22.95	22.94	23.08	POSITIVE
F5	20.24	25.27	25.28	25.24	POSITIVE

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), infectious salmon anaemia virus (ISAV), salmonid alphavirus (SAV) and viral haemorrhagic septicemia virus (VHSV).

**Parasitology:** Tissue samples were tested for segments of nucleic acid indicative of the presence of the parasites specified below using real-time PCR (qPCR).

*Neoparamoeba perurans* (AGD)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	-	-	-	-	NEGATIVE
F2	20.16	34.82	35.39	34.80	POSITIVE
F3	-	-	-	-	NEGATIVE
F4	-	-	-	-	NEGATIVE
F5	-	-	-	-	NEGATIVE

*Paranucleospora theridion*

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.59	27.96	28.07	28.24	POSITIVE
F2	20.16	27.16	27.13	27.26	POSITIVE
F3	19.92	28.76	28.84	28.74	POSITIVE
F4	19.68	30.30	30.32	30.34	POSITIVE
F5	20.24	30.82	30.69	30.53	POSITIVE

**Histology:** Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from Fish 1 - 5. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Several individual lamellae displaying epithelial thickness (F1). F2, F3 and F4 exhibited mild hyperplasia and lamellar fusion, mainly noted at the distal part of the gill filament. F4 also displayed several areas with fusion of adjacent lamellae and some nuclei exhibiting chromatin margination

(potentially associated with salmon gill poxvirus presence), In between two lamellae, a structure resembling plankton (potentially *Lizzia* sp.) was observed. Several aneurysmal dilations were observed (F1, F2, F3). F5 displayed some autolysis artefacts which hindered the reading.

Skin & Muscle: Within normal range.

Heart: Within normal range.

Gut and pyloric caeca: Some inflammatory cell infiltration, potentially associated with vaccine administration (F2). Some cell sloughing (F3, F5) (potentially associated with post-mortem artefacts).

Pancreas: Within normal range.

Liver: Mild diffuse hepatocyte vacuolation (F2, F3, F4, F5).

Kidney: Some reduction of the haematopoietic tissue. F1, F3: not in section.

Spleen: Within normal range.

Brain and Eye: Not sampled.

Signed:



Date: 23/11/2021

Fish Health Inspector

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Marine Scotland website at <https://www.gov.scot/publications/fish-health-inspectorate-service-charter/>





