

Case No:	2023-0126	Date of visit:	30/03/2023			
Time spent on site:	5 hours	Main Inspector:				
Site No:	FS0914	Site Name:	Lismore West			
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd			
Case Types:	1 <input type="checkbox"/> DIA	2 <input type="checkbox"/> VMD	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
Water Temp (°C):	8.57	Thermometer No:	T310	FHI 045 completed	<input type="checkbox"/>	
Observations:	Region:	ST	Water type:	S	CoGP MA	M-36
Dead/weak/abnormally behaving fish present?	<input type="checkbox"/> Y	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	<input type="checkbox"/> Y	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	<input type="checkbox"/> Y	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="checkbox"/> Y					

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

Additional Case Information:

Freshwater treatment started all the issues. Mortality has been declining week on week.

Histopathology health report dated 03/03/2023 detected microcolonies of bacteria - suspected *Aeromonas septicaemia* (Furunculosis) on site.

Fergusons to Barkip

Salmon mortality this week (Wk 13) so far 0.42% - 614 fish (only 3 days in).

Wrasse mortality - Wk 12: 0.70% (44 fish), Wk 11: 0.81% (51 fish), Wk 10: 0.06% (5 fish), Wk 9: 0.13% (17 fish)

Freshwater - 11th feb - 16th Feb

Optomease 7 day withdrawl period

Follow up inspection - see case 20230114 for additional information.

Paper work completed by ■■■■, supervised by ■■■■. Sampling of F1-F4 by ■■■■ supervised by ■■■■, Sampling of F5 by ■■■■ observed by ■■■■.

Case No: Site No:

Date of Visit: Inspector(s):

Registration/Authorisation Details

1. Business/site details summary checked by site representative?

2. Changes made to details?

Site Details (include cleaner fish for all sections)

Total No facilities	<input type="text" value="4"/>	Facilities stocked	<input type="text" value="9"/>	No facilities inspected	<input type="text" value="9"/>
Species	<input type="text" value="SAL"/> <input type="text" value="WRS"/>				
Age group	<input type="text" value="22 Q1"/> <input type="text" value="Wild"/>				
No Fish	<input type="text" value="152,593"/> <input type="text" value="6,134"/>				
Mean Fish Wt	<input type="text" value="3.3kg"/> <input type="text" value="105g"/>				
Next Fallow Date (Site)	<input type="text" value="July/August 2023"/>	Next Input Date (Site)	<input type="text" value="Jan 2024"/>		
Recent (last 4 wks) disease problems?			<input type="text" value="Y"/>	Any escapes (since last visit)?	<input type="text" value="N"/>
If yes, detail:	<input type="text" value="Frunculosis on site"/>				

Movement Records

1. Movement records available for inspection?

2. Date of last inspection:

3. Are records complete and correctly entered?

4. Are movement records available for dead fish and waste?

5. Are records complete and correctly entered?

6. Are health certificates for introductions (outwith GB) available?

Transport Records

1. Are any movements carried out by (or on behalf) of the business (not using a STB)?

If yes, is there a system in place for maintenance of transportation records?

Mortality Records

1. Mortality records available for inspection?

2. How are mortalities disposed of?

If other detail:

3. Mortality records complete and correctly entered?

4. Recent mortality (last 4 wks):

5. Evidence of recent increased/atypical mortalities?

If yes, facility nos/no mortality per facility/no stock per facility/reason:

6. Any other peaks in mortality during period checked?

If yes, detail:

7. Have increased (unexplained) mortalities been reported to vet or FHI?

If yes, detail action:

8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.

Treatments and Medicines Records

1. Recent treatments (see comment)?	<input type="checkbox"/>	Y
If yes, detail: <input type="text"/>		
If other, detail: <input type="text" value="Freshwater,"/>		
2. Medicines records available for inspection?	<input type="checkbox"/>	Y
3. Are records complete and correctly entered?	<input type="checkbox"/>	Y
4. Are fish in a withdrawal period?	<input type="checkbox"/>	Y
5. If yes, what treatment(s)?	<input type="text"/>	
If other, detail: <input type="text" value="Optomease"/>		
6. Are medicines stored appropriately?	<input type="checkbox"/>	Y

Biosecurity Records

1. Biosecurity records available for inspection?	<input type="checkbox"/>
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	<input type="checkbox"/>
3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any <i>increased (unexplained)</i> mortality at the site been included?	<input type="checkbox"/>
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 <i>how</i> and <i>when</i> that will be notified to Scottish Ministers?	<input type="checkbox"/>
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	<input type="checkbox"/>
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.)?	<input type="checkbox"/>
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	<input type="checkbox"/>
8. Have the biosecurity procedures been adequately implemented on site?	<input type="checkbox"/>
If no, detail: <input type="text"/>	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	<input type="checkbox"/>	Y
2. If yes, are results available for inspection?	<input type="checkbox"/>	Y
3. Any significant results?	<input type="checkbox"/>	Y
If yes, detail (if not detailed under recent disease problems). <input type="text" value="see additional information"/>		

Records checked between:	<input type="text" value="22/02/23 - 30/03/23"/>
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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							
Fish nos	1	2	3	4	5	6						
Pool Group	P1	P2	P3	P4	P5							
Species	SAL	SAL	SAL	SAL	SAL	SAL						
Average weight	3.3kg	3.3kg	3.3kg	3.3kg	3.3kg	3.3kg						
Sex	N/A	N/A	N/A	N/A	N/A	N/A						
Water Type	SW	SW	SW	SW	SW	SW						
Stock Details		Barcaldine Smolt Unit (FS1328)	Barcaldine Smolt Unit (FS1328)	Barcaldine Smolt Unit (FS1328)	Barcaldine Smolt Unit (FS1328)	Barcaldine Smolt Unit (FS1328)	Barcaldine Smolt Unit (FS1328)					
	Stock Origin											
Facility No	3	3	3	1	1	1						

03/2023

Additional Sample Information:

MG sample for *Pasteurella skyensis*.
P skyensis and SRS samples collected due to reports of these in the area.

5

Total Tests assigned

8

Case no: 2023-0126

Site No: FS0914

Method of killing: Percussive

Date of visit: 30/03/2023

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)				30	50	50				
External Signs										
Behaviour	Moribund		M							
	Lethargic	M	M	M	M	M				
	Hanging vertical									
	Spiralling									
	Flashing									
	Loss of equilibrium									
Body	Dark									
	Distended abdomen									
	Anorexic									
	Scale Oedema	S								
Opercula	Shortened									
	Flared									
Haemorrhaging	Throat									
	Ventrum									
	Base of fins									
	Elsewhere									
Eyes	Exophthalmic			S						
	Enophthalmic (sunken)									
	Cataract									
	Haemorrhagic									
Gills	Pale	W		W	W					
	Zoned				W					
	Necrotic									
Lesions	Flank			W						
	Elsewhere									
Vent	Inflamed									
	Trailing faeces									
Lice Load	Estimate numbers	2	1	3	2	0				
Internal Signs										
Ascites	Clear									
	Bloody									
Oedema	In tissues	S				W				
Heart	Pale/anaemic									
	Granulomas									
	Deformed									
Liver	Petechial haem	W								
	Gross haem	M	M	M	M	M				
	Tissue breakdown									
	Enlarged									
	Colour number(s)	4	4	3	6	6				
	Granulomas									
	Lesions									
Pyloric caeca	Petechial haem		S							
	Tubules mauve									
	Lack of fat									
Spleen	Enlarged	S		M	M	M				
	Granulomas									
Gut	No food present									
	Yellow pseudo-faeces		S							
	External haem									
	Internal haem									
Body wall	Haemorrhaging									
Swim bladder	Haemorrhaging									
	Fluid filled									
Kidney	Swollen									
	Grey									
	Granular									
	Liquefied									
General	Parasites present									
	Anaemia									

Case no: 2023-0126

Date of visit: 30/03/2023

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

Fish Number											
Time sampled after death (if > 45 minutes)											
External Signs											
Behaviour	Moribund										
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	Tissue breakdown										
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	Granulomas										
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Body wall	Haemorrhaging										
Swim bladder	Haemorrhaging										
	Fluid filled										
Kidney	Swollen										
	Grey										
	Granular										
	Liquefied										
General	Parasites present										
	Anaemia										

Additional comments:

Heavy petachial haemoraging on the kidney and pc of F3, F2.

Site No: FS0914
Case No: 2023-0126
Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology



Case No: **2023-0126** Date of visit: **30/03/2023**
 Site No: **FS0914** Inspector: **[REDACTED]**

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2 nd Insp
AGD	1/5	04/04/2023		06/04/2023		06/04/2023		
VHS	0/5	04/04/2023		06/04/2023		06/04/2023		
IHN	0/5	04/04/2023		06/04/2023		06/04/2023		
IPN	1/5	04/04/2023		06/04/2023		06/04/2023		
Paranucleospora theridion	3/5	04/04/2023		06/04/2023		06/04/2023		
Piscirickettsia salmonis	0/5	04/04/2023		06/04/2023		06/04/2023		
Piscine myocarditis virus	1/5	04/04/2023		06/04/2023		06/04/2023		
Salmon gill poxvirus	0/5	04/04/2023		06/04/2023		06/04/2023		
Salmonid alphavirus	1/5	04/04/2023		06/04/2023		06/04/2023		
Aeromonas salmonicida	4/5	17/04/2023		21/04/2023		21/04/2023		
Aeromonas (histology)	4/5	13/04/2023		21/04/2023		21/04/2023		
Cardiomyopathy syndrome	1/5	13/04/2023		21/04/2023		21/04/2023		
HPAT	4/5	13/04/2023		21/04/2023		21/04/2023		
KPAT	4/5	13/04/2023		21/04/2023		21/04/2023		
SKIN	2/5	13/04/2023		21/04/2023		21/04/2023		
GPAT	5/5	13/04/2023		21/04/2023		21/04/2023		
SPAT	3/5	13/04/2023		21/04/2023		21/04/2023		
SAV (histology)	1/5	13/04/2023		21/04/2023		21/04/2023		
Pasteurella skyensis	0/5	18/04/2023		21/04/2023		21/04/2023		
ISA	0/5	04/04/2023		21/04/2023		21/04/2023		

Report Summary			
Case Type	Date	Insp	2 nd Insp
DIAG	15/02/2024		
VMD	15/02/2024		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0125	DATE OF VISIT	30/03/2023
SITE No	FS0914	SITE NAME	Lismore West
CASE No	20230126	INSPECTOR	[REDACTED]

Section 1: Summary

The above site was inspected following reports of increased mortality by the farm operator. During the physical inspection of four pens, five fish were removed for diagnostic sampling.

Histopathology examination revealed features consistent with *Aeromonas salmonicida* (furunculosis) which was also isolated from four fish. The level and purity of growth would suggest that this isolate would be implicated as a source of morbidity in this case. *Aeromonas salmonicida* is a primary fish pathogen and poses a significant risk to fish health.

One fish also displayed features consistent with cardiomyopathy syndrome. F4 displayed some myocarditis that could be potentially related with the presence salmon alphavirus which was confirmed by QPCR.

Samples tested positive for the gill related pathogens *Paranucleospora theridion* and *Neoparamoeba perurans* (AGD).

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

Following six consecutive weeks of increased mortalities by the farm operator, the above site was inspected. During the physical inspection of the four stocked pens, three fish were removed from pen three and two fish were removed from pen 1 for diagnostic sampling. Results of health surveillance carried out by the farm operator indicated suspected furunculosis on site.

All five fish taken for diagnostic sampling were lethargic and F2 was moribund. Raised scales were observed in F1 on the left hand dorsal side. Pale gills were seen in F1, F3 and F5 with the gills in F5 also being zoned. F3 had exophthalmic eyes and a small lesion on the flank. Lice load was low: F1 – 2, F2 – 1, F3 – 3, F4 – 2 and F5 – 0.

Internally, oedema was observed in the tissues of F1 and F5. All five fish had gross haemorrhaging of the liver with F1 also exhibiting petechial haemorrhaging. The pyloric caeca in F2 had petechial haemorrhaging. All fish except F2 had enlarged spleens. Yellow pseudo-faeces was only seen in F2.

Samples

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

Fish number	Facility number	Species	Stage	Origin
1-3	3	Atlantic Salmon	3.3kg 2022 Q1	Barcaldine Smolt Unit (FS1328)
4-5	1	Atlantic Salmon	3.3kg 2022 Q1	Barcaldine Smolt Unit (FS1328)

Results

Bacteriology: Kidney and gill material from F1 to F5 were inoculated onto appropriate media for the isolation of bacteria. Additionally, lesion material from F3 was inoculated onto appropriate media for the isolation of bacteria.

The following bacteria was isolated:

- *Aeromonas salmonicida*:
 - Isolate A found in fish: F1 (Kidney); F2, and F5 (Kidney, Gill); F3 (Kidney, Lesion and Gill)

From the tests conducted, we do not have evidence of resistance to oxytetracycline, sulphamethoxazole/trimethoprim or florfenicol.

From the tests conducted, we have evidence which may indicate resistance to amoxycillin.

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

Infectious pancreatic necrosis virus (IPNV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	15.79	-	-	-	Negative
F2	16.39	-	-	-	Negative
F3	15.97	33.26	32.85	32.80	POSITIVE
F4	16.09	-	-	-	Negative
F5	16.38	-	-	-	Negative

Salmonid alphavirus (SAV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	15.79	-	-	-	Negative
F2	16.39	-	-	-	Negative
F3	15.97	-	-	-	Negative
F4	16.09	21.86	21.98	21.91	POSITIVE
F5	16.38	-	-	-	Negative

Piscine myocarditis virus (PMCV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	15.79	-	-	-	Negative
F2	16.39	-	-	-	Negative
F3	15.97	-	-	-	Negative
F4	16.09	-	-	-	Negative
F5	16.38	14.78	14.76	14.99	POSITIVE

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), salmon gill-pox virus (SGPV), viral haemorrhagic septicemia virus (VHSV), *Pasteurella skyensis* and *Piscirickettsia salmonis*.

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	19.76	-	-	-	NEGATIVE
F2	19.63	-	-	-	NEGATIVE
F3	19.20	-	-	-	NEGATIVE
F4	18.78	32.48	32.33	32.53	POSITIVE
F5	19.55	-	-	-	NEGATIVE

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.76	-	-	-	NEGATIVE
F2	19.63	35.42	36.10	34.85	POSITIVE
F3	19.20	31.26	31.45	31.18	POSITIVE
F4	18.86	34.03	34.10	33.84	POSITIVE
F5	19.55	30.90	30.88	30.61	POSITIVE

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from F1 – F5. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Lamellar hyperplasia branchitis, multifocal, some, mild in all fish with several dense aggregates of Gram-negative bacteria associated (F2, F3 and F5).

Skin & Muscle: Lesion F1: Dermatitis with associated Gram-negative bacteria. F2 also display some dermatitis and partial absence of epidermal layer.

R09

UKAS accredited testing laboratory No. 1964

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB

Tel - 0131 244 3498 Fax - 0131 244 0944 Email - ms.fishhealth@gov.scot

Website - www.gov.scot/Topics/marine/science

Heart: F2, F3 and F5 display several small dense aggregates of Gram-negative bacteria and some fibre necrosis surrounding the aggregates. F5 also displayed moderate myocarditis and endocarditis. F5 displayed marked epicarditis. F4 also displayed some myocarditis. F2 and F4: No bulbus in section.

Gut and pyloric caeca: Marked cell sloughing (potentially associated with post-mortem artefact) observed in all fish. F4 displayed a mild peritonitis. Some fish had almost no pyloric caeca in section.

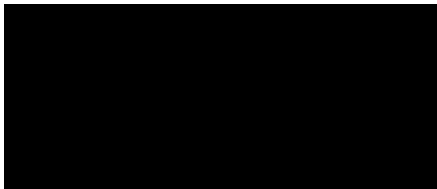
Pancreas: Within the normal range.

Liver: Hepatocellular necrosis, mild, multifocal and several dense aggregates of Gram-negative bacteria (F3), F5 exhibited hepatocellular necrosis surrounding the bacterial aggregates and F2 displayed some evidence of erythrophagocytosis, F4 exhibited some sinusoidal congestion and F1 and F2 some cuffing.

Kidney: Foci of interstitial cell (haemopoietic) necrosis with few or several dense aggregates of Gram-negative bacteria associated observed in F1, F2, F3 and F5. F5 also displayed some interstitial haemorrhage.

Spleen: Necrotising splenitis, multifocal, with several dense aggregates of Gram-negative bacteria associated (F3, F5). F1 also displayed some bacteria.

Signed:



Fish Health Inspector

Date: 15/02/2024

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/>



FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0125	DATE OF VISIT	30/03/2023
SITE No	FS0914	SITE NAME	Lismore West
CASE No	20230126	INSPECTOR	[REDACTED]

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

The above site was visited in accordance with the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2015.

Samples were taken to be analysed for veterinary residues.

In addition, samples were taken for diagnostic purposes. A separate report will be issued detailing the results of these tests.

Records

The information required for the public record of aquaculture production businesses regarding this site was verified and where necessary updated.

Medicine records were inspected and found to be adequately maintained.

Aquaculture animal and aquaculture animal product movement records were inspected and appeared to be adequately maintained.

Mortality records were inspected and found to be adequately maintained.

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

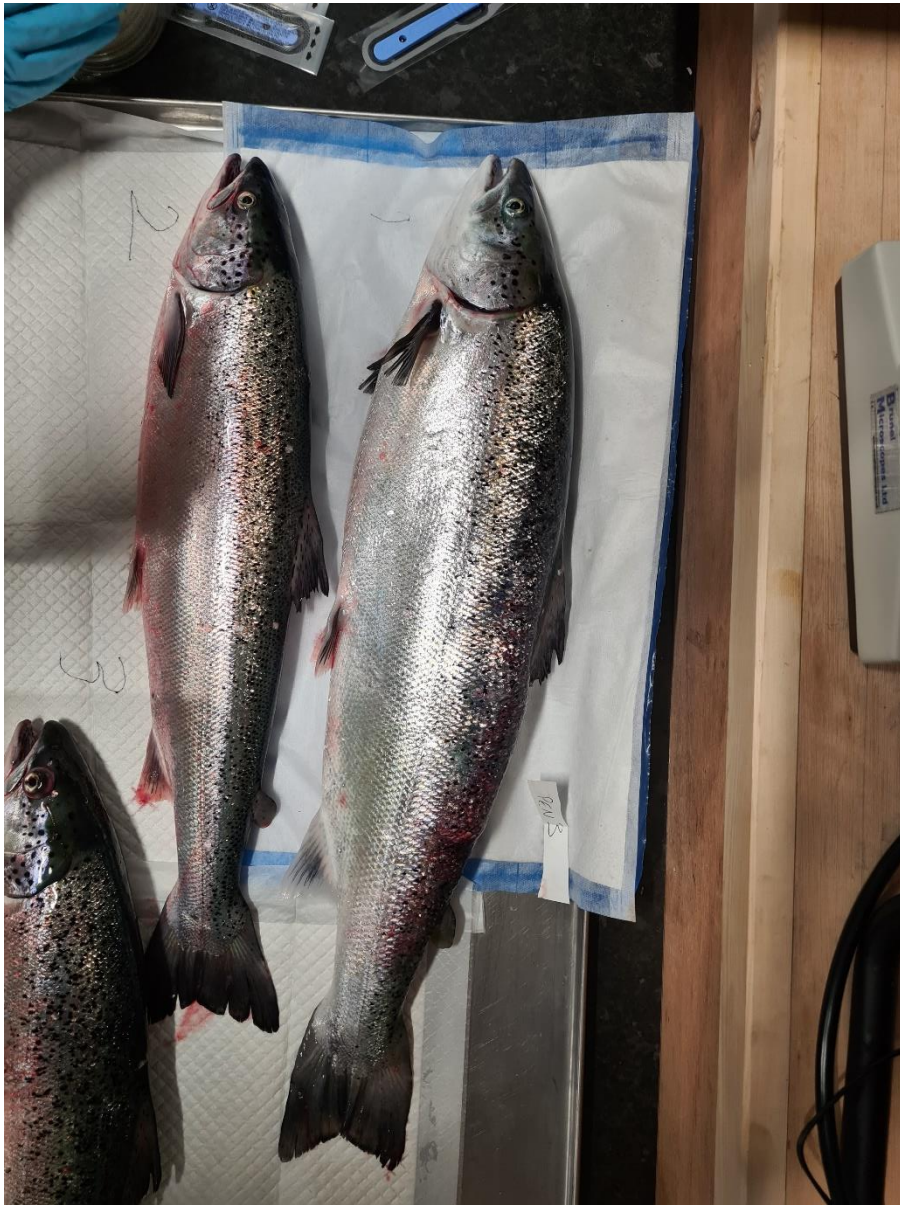
Signed:

Date: 15/02/2024

Fish Health Inspector

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Scottish Government website at [Fish Health Inspectorate Service Charter - gov.scot \(www.gov.scot\)](https://www.gov.scot/policies/fish-health-inspectorate/)

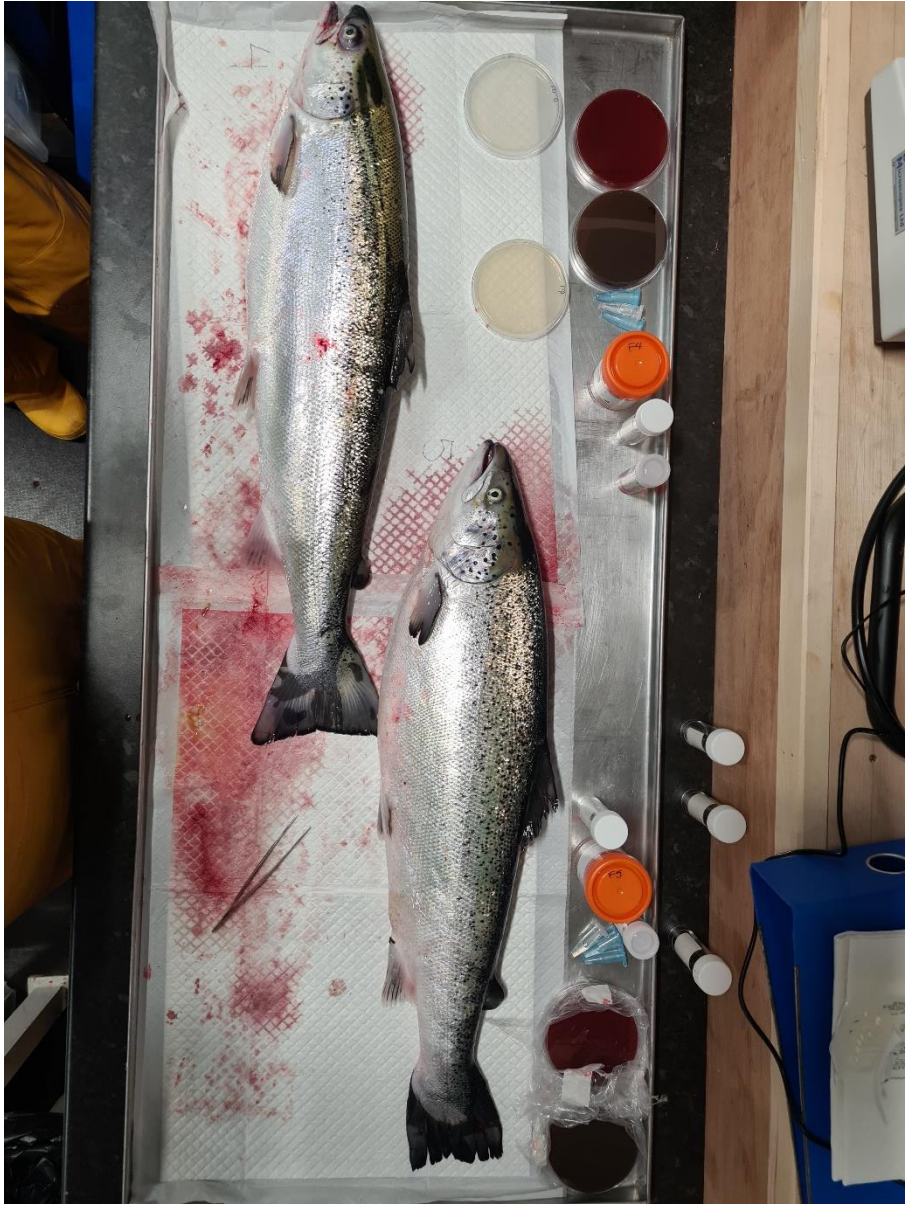
R20



F1 – 2 External



F 3 External



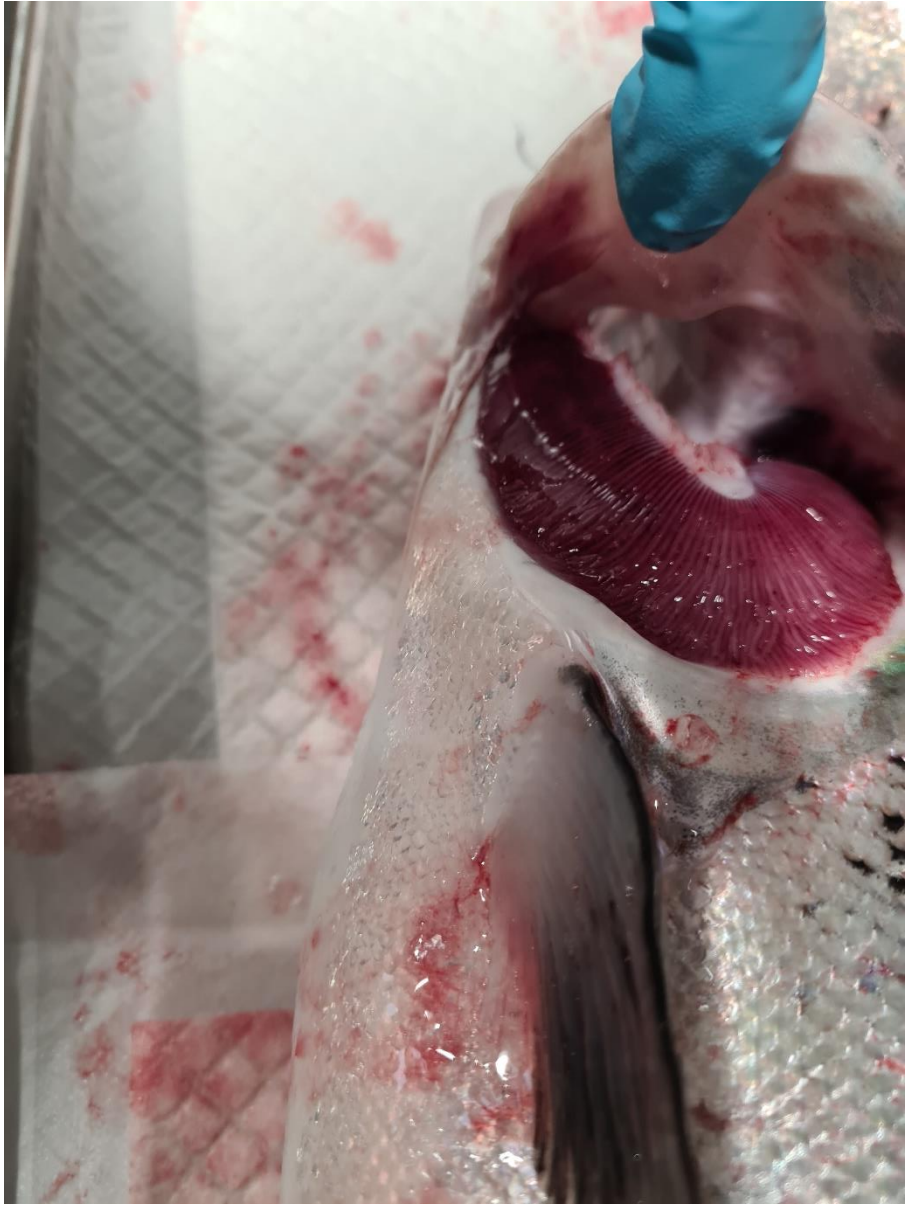
F4-5 External



F1 Gills



F2 Gills



Fish 3 Gills



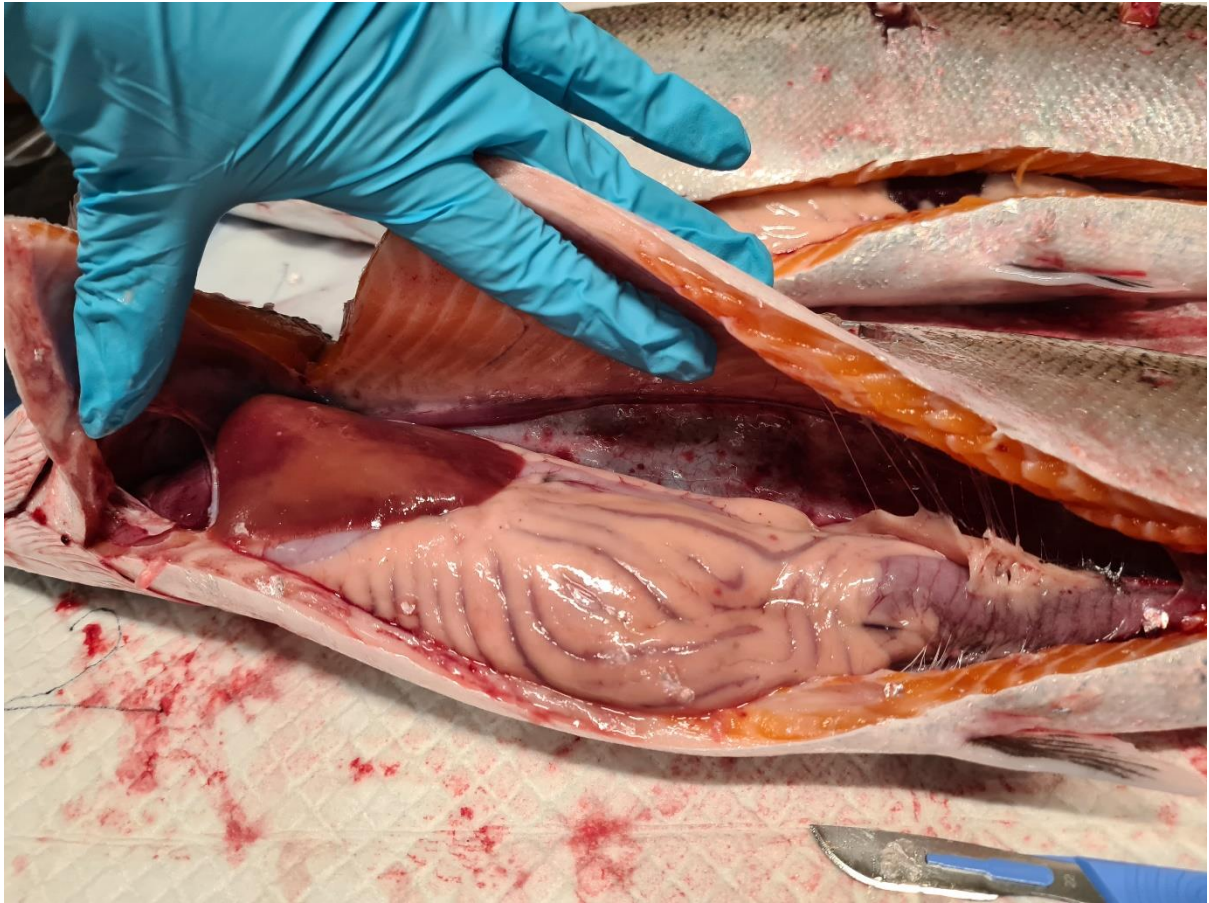
Fish 4 Gills



Fish 5 Gills



Fish 1 Internal



Fish 2 Internal



Fish 3 Internal



Fish 4 Internal



Fish 5 Internal