

Case No:

2022-0579

Date of visit:

17/11/2022

Time spent on site:

7 hours

Main Inspector:

Site No:

FS0629

Site Name:

Poll Na Gille

Business No:

FB0119

Business Name:

Mowi Scotland Ltd

Case Types:

1 DIA

2 REP

3

4

5

6

Water Temp (°C):

11.4

Thermometer No:

Site

FHI 045 completed

Observations:

Region:

ST

Water type: S

CoGP MA M-40

Dead/weak/abnormally behaving fish present?

 If yes, see additional information/clinical score sheet.

Clinical signs of disease observed?

 If yes, see additional information/clinical score sheet.

Gross pathology observed?

 If yes, see additional information/clinical score sheet.

Diagnostic samples taken?

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

**Additional Case Information:**

Mortality began after a peroxide treatment (suspected AGD), reported to FHI - Wk38 (1.04% 8930 fish). Bacterial infection suspected, Rickettsia - treatment with antibiotics florfenicol, however no decrease in mortality has been observed.

Companies own health surveillance found *Tenacibaculum* - +ve in salmon, although no clinical sign.

Most recent slice treatment - ended 24th August 22

Lumpfish mortality since input - 155,645 - freshwater treatment in August

Wrasse Mortality since input - 9982 - background mortality

Lumpfish mortality over 75% since input in May 22:

Week of the 10th Aug 22 - 11,000

from the 1st to the 10th Aug 22 - ~46,000 - Suspected viral infection of lumpfish, flavivirus - although FW treatment was taking place.

There was an outbreak of flavivirus on site, although site manager was told this outbreak occurred in the hatchery

Lumpfish mortality by month: May 22 - 562, June - 8162, July - 15,979, August - 126067 and September - 3564.

Two salmon stocks on site - StofnFiskur and Aquagen.

Site thermometer used as inspectors was unavailable.

Paperwork completed by [REDACTED], observed by [REDACTED] Site inspection and diagnostic carried out by [REDACTED].

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Inspector(s):

**Registration/Authorisation Details**

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

2. Changes made to details?  Y

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

Total No facilities	12	Facilities stocked	12	No facilities inspected	2
Species	SAL	LUM	WRA		
Age group	22 Q2	2021	Mix		
No Fish	697,425	7,679	52,981		
Mean Fish Wt	1.35kg	45 g	Mix		
Next Fallow Date (Site)	Summer 2023		Next Input Date (Site)	Spring 2024	
Recent (last 4 wks) disease problems?			Y	Any escapes (since last visit)?	N
If yes, detail:	AGD, Rickettsia.				

**Movement Records**

1. Movement records available for inspection?  Y

2. Date of last inspection:  08/06/2022

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)?

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

**Mortality Records**

1. Mortality records available for inspection?  Y

2. How are mortalities disposed of?  Whole fish - Dundas Chemicals

If other detail:

3. Mortality records complete and correctly entered?  Y

4. Recent mortality (last 4 wks):  Wk42 - 0.34% (2872 fish), Wk43 - 1.73% (14,548 fish), Wk44 - 3.61% (29,908 fish) and Wk45 - 8.4% (67,035 fish)

5. Evidence of recent increased/atypical mortalities?  Y

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

**Pen 6 worst on site**

6. Any other peaks in mortality during period checked?  Y

If yes, detail:  WK38 - 1.04% - Peroxide treatment

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

If yes, detail action:  See additional comments on clearfish mortality

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)?

Florfenicol,  
H2O2,  
T.M.S.,  
Slice

If yes, detail:

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)?

Florfenicol, T.M.S.

If other, detail:

6. Are medicines stored appropriately?

Y

**Biosecurity Records**

1. Biosecurity records available for inspection?

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

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?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?

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

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.)?

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

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

If no, detail:

**Results of Surveillance**

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

2. If yes, are results available for inspection?

3. Any significant results?

If yes, detail (if not detailed under recent disease problems).

Records checked between:

08/06/2022 - 17/11/2022

Case no:	2022-0579	Site No:	FS0629	Date of visit/ Sampling:	17/11/2022	17/
Priority samples:	VI	BA	PA	MG	HI	
Time sampling starts/ends:	12:30:00	14:30:00		Inspector:		VMD No.
Environmental conditions:	1 Indoors	2	3	4	5	
Summary samples	HIST	Y	BA	Y	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	1-5						
Pool Group	P1	P1	P1	P1	P1							
Species	SAL	SAL	SAL	SAL	SAL	SAL						
Average weight	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg						
Sex	N/A	N/A	N/A	N/A	N/A	N/A						
Water Type	SW	SW	SW	SW	SW	SW						
Stock Details		Inchmore	Inchmore	Inchmore	Inchmore	Inchmore						
Stock Origin	6	6	6	2	2							
Facility No												

11/2022 Additional Sample Information:

6

### Total Tests assigned

5

Case no: 2022-0579

Site No: FS0629

Method of killing: Percussive

Date of visit: 17/11/2022

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)			20	40	60			
External Signs								
Behaviour	Moribund	M	M	M	M			
	Lethargic	M	M	M	M			
	Hanging vertical							
	Spiralling							
	Flashing							
	Loss of equilibrium							
Body	Dark							
	Distended abdomen							
	Anorexic							
	Scale Oedema							
Opercula	Shortened	M						
	Flared							
Haemorrhaging	Throat							
	Ventrum							
	Base of fins							
	Elsewhere							
Eyes	Exophthalmic							
	Enophthalmic (sunken)							
	Cataract							
	Haemorrhagic							
Gills	Pale							
	Zoned							
	Necrotic							
Lesions	Flank				W			
	Elsewhere							
Vent	Inflamed							
	Trailing faeces							
Lice Load	Estimate numbers	0	0	0	0	0		
Internal Signs								
Ascites	Clear							
	Bloody							
Oedema	In tissues							
Heart	Pale/anaemic							
	Granulomas							
	Deformed							
Liver	Petechial haem							
	Gross haem							
	Tissue breakdown							
	Enlarged							
	Colour number(s)	5	5	4	4	4		
	Granulomas							
	Lesions							
Pyloric caeca	Petechial haem							
	Tubules mauve							
	Lack of fat							
Spleen	Enlarged	M	M	M	M	M		
	Granulomas							
Gut	No food present							
	Yellow pseudo-faeces	S		S				
	External haem							
	Internal haem							
Body wall	Haemorrhaging							
Swim bladder	Haemorrhaging							
	Fluid filled							
Kidney	Swollen							
	Grey							
	Granular							
	Liquefied							
General	Parasites present							
	Anaemia							

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

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Additional comments:

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Nature of non-compliance:

Action taken (FHI):

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

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Site No: FS0629

### Inspector:

## FISH HEALTH INSPECTORATE VISIT REPORT

### SUMMARY FOR INFORMATION OF SITE OPERATOR

**BUSINESS No** FB0119  
**SITE No** FS0629  
**CASE No** 20220579

**DATE OF VISIT** 17/11/2022  
**SITE NAME** Poll Na Gille  
**INSPECTOR** [REDACTED]

#### Section 1: Summary

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

Histopathology examination revealed mild, multifocal hyperplastic branchitis along with epitheliocystis (likely *Ca. Branchiomonas cysticola*) and amoebic gill disease (AGD). Mild peritonitis potentially associated with vaccine administration and mild, multifocal hepatic necrosis were also observed.

All five fish tested positive using qPCR for Salmon gill poxvirus, *Paranucleospora theridion* and *Neoparamoeba perurans* (amoebic gill disease (AGD)). F1 and F2 tested positive for *Piscirickettsia salmonis* (SRS).

No significant bacterial growth was observed on plates taken from kidney material of all five fish.

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 three weeks of increased mortality notifications above the reporting threshold which began at 1.73% and peaked at 8.4% in the third week, a site inspection was conducted and diagnostic samples taken for analysis.

Mortality removal had occurred in the morning before visual inspection of the site occurred. During inspection of the site very few moribund fish were observed. Only slow moribund fish at the water surface or just below were able to be caught.

All fish sampled were moribund and lethargic. F1 had a shortened opercula and F5 had a small lesion on its' flank. No lice were observed on any of the sampled fish.

During internal examination, all five fish had enlarged spleens and yellow pseudo-faeces was present in F1 and F3.

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Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB  
Tel - 0131 244 3498 Fax - 0131 244 0944 Email - [ms.fishhealth@gov.scot](mailto:ms.fishhealth@gov.scot)  
Website - [www.gov.scot/Topics/marine/science](http://www.gov.scot/Topics/marine/science)

## Samples

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

Fish number	Facility number	Species	Stage	Origin
1-3	6	Atlantic Salmon	1.3kg 2022 Q2	Aquagen
4-5	2	Atlantic Salmon	1.3kg 2022 Q2	Stoffinfisker

## Results

**Bacteriology:** Kidney and gill material from F1-5 and lesion material from F5 were inoculated onto appropriate media for the isolation of bacteria. There was no significant bacterial growth.

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

### *Piscirickettsia salmonis* (SRS)

Fish Number	Endogenous control Cp value	Cp Values			Reported result
1	18.9	39.51	41.27	39.03	POSITIVE
2	18.6	41.76	38.8	40.79	POSITIVE
3	-	-	-	-	NEGATIVE
4	-	-	-	-	NEGATIVE
5	-	-	-	-	NEGATIVE

**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

Fish Number	Endogenous control Cp value	Cp Values			Reported result
1	19.47	27.5	27.76	27.69	POSITIVE
2	19.42	28.06	27.76	27.66	POSITIVE
3	19.34	30.71	30.71	30.46	POSITIVE
4	18.96	31.51	31.27	31.41	POSITIVE
5	19.34	25.76	25.73	25.75	POSITIVE

Tissue samples were tested and were negative for the presence of infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), infectious salmon anaemia virus (ISAV), viral haemorrhagic septicaemia virus (VHSV) and piscine myocarditis virus (PMCV) by qPCR.

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**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
1	19.47	28.28	28.28	28.35	POSITIVE
2	19.42	26.9	26.75	26.91	POSITIVE
3	19.34	25.84	25.95	25.92	POSITIVE
4	18.96	25.42	25.44	25.54	POSITIVE
5	19.34	26.31	26.33	26.46	POSITIVE

*Paranucleospora theridion*

Fish Number	Endogenous control Cp value	Cp Values			Reported result
1	19.47	26.26	26.77	26.18	POSITIVE
2	19.42	25.21	25.66	25.32	POSITIVE
3	19.34	27.39	27.33	27.64	POSITIVE
4	18.96	22.9	22.86	22.47	POSITIVE
5	19.34	21.75	22.11	21.95	POSITIVE

**Histology:** Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, 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:** Filament hyperplasia and lamellar fusion moderate to marked, multifocal, filament branchitis, mild, multifocal (F4-F5). Presence of several amoeboid cells resembling *Neoparamoeba perurans* observed in all fish and few basophilic epithelial inclusions (likely epitheliocystis) (F1-F5). F2 also displayed some lamellar necrosis. Lamellar telangiectasia with multifocal thrombosis and free blood among gill filaments (F1-F5).

**Skin & Muscle:** Mild, multifocal dermatitis and myositis (F5).

**Heart:** Very mild, multifocal myocarditis (F5). Mild epicarditis (F2).

**Gut and pyloric caeca:** Peritonitis, mild (potentially associated with vaccine administration) (F2, F4, F5). F4 hindgut displayed haemorrhage.

**Pancreas:** Within the normal range.

**Liver:** Hepatocellular necrosis, mild, multifocal (F1, F2, F3, F5).

**Kidney:** interstitial cell (haemopoietic) necrosis mild, multifocal (F2). Renal tubules with hyaline droplets (F2, F3).

**Spleen:** Splenic necrosis, mild, multifocal (F5).

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

Signed:



Date: 26/01/2023

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/>

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