

Case No: 2023-0031 Date of visit: 09/11/2023

Time spent on site: 5 Hours Main Inspector:

Site No: FS1296 Site Name: Colonsay
Business No: FB0119 Business Name: Mowi Scotland Ltd

Case Types: 1 DIA 2 REP 3 4 5 6

Water Temp (°C): 11.5 Thermometer No: T309 FHI 045 completed N/A

Observations: Region: ST Water type: S CoGP MA: None

Dead/weak/abnormally behaving fish present? Y If yes, see additional information/clinical score sheet.
Clinical signs of disease observed? Y If yes, see additional information/clinical score sheet.
Gross pathology observed? Y If yes, see additional information/clinical score sheet.
Diagnostic samples taken? Y

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

Additional Case Information:

Site inspected following a large mortality event reported from week 41 to 43 2023. The site was inspected in a rough sea state in overcast, windy weather. All stocked pens were inspected with only 4 moribund fish observed across the whole site. The stocks were observed shoaling well and responding positively to routine feeding regimes. Two fish were displaying clinical signs of disease were captured in the mort sock which were removed for diagnostic sampling. Fish sampled for VMD appeared healthy both internally and externally.

Mortalities are ensiled on site during more normal levels of mortality, during the mortality event the site sought removal assistance from the Ben Mowi vessel which has an Ensiler on board.

Following the event, the site's company vet diagnosed AGD as the main driver for mortality. The site recently treated with freshwater from 09/10/2023 to 17/10/2023.

Sea lice levels were low at the time of inspection, the most recent treatments were Slice in May 2023 and AMX in July.

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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	14	Facilities stocked	
Species	SAL		
Age group	2023 Q1		
No Fish	746,898		
Mean Fish Wt	2.4kg		
Next Fallow Date (Site)	09/2024	Next Input Date	Y
Recent (last 4 wks) disease problems? If yes, detail:	AGD		

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): Week 44 (7,639, 1.01%), W 202897)
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)?

If yes, detail:

T.M.S

If other, detail:

2. Medicines records available for inspection?

3. Are records complete and correctly entered?

4. Are fish in a withdrawal period?

5. If yes, what treatment(s)?

T.M.S

If other, detail:

6. Are medicines stored appropriately?

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* (un)

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 Scottish Ministers?

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

6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission equipment, live or dead fish etc.)?

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

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:

16/06/2022 - 0

Inspector(s): [REDACTED]

Y
N

12	No facilities inspected	14
te (Site)	03/25	
Any escapes (since last visit)?		N

Y
16/06/2022
Y
Y
Y
N/A

	Y
Ensiled - on site	
	Y
Week 43 (37,148 4.67%), Week 42 (93,576, 10.54%), Week 41 (18.6%,	
	N
	N
	N/A
	Y

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											
Fish nos	1	2	3	4	5								
Pool Group													
Species	SAL	SAL	SAL	SAL	SAL								
Average weight	2.4kg	2.4kg	2.4kg	2.4kg	2.4kg								
Sex	N/A	N/A	N/A	N/A	N/A								
Water Type	SW	SW	SW	SW	SW								
Stock Details													
Stock Origin	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)								
Facility No	5	5	6	6	6								

Case no: 2023-0031

Site No: FS1296

Method of killing: Percussive

Date of visit: 09/11/2023

Inspector(s):

Sheet Relevant: Y

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

Fish Number		F1	F2											
Time sampled after death (if > 45 minutes)														
External Signs														
Behaviour	Moribund	M	M											
	Lethargic	M	M											
	Hanging vertical													
	Spiralling													
	Flashing													
	Loss of equilibrium													
Body	Dark													
	Distended abdomen													
	Anorexic													
	Scale Oedema													
Opercula	Shortened													
	Flared													
Haemorrhaging	Throat													
	Ventrum													
	Base of fins													
	Elsewhere													
Eyes	Exophthalmic													
	Enophthalmic (sunken)													
	Cataract													
	Haemorrhagic													
Gills	Pale	M	M											
	Zoned													
	Necrotic													
Lesions	Flank													
	Elsewhere													
Vent	Inflamed													
	Trailing faeces													
Lice Load	Estimate numbers													
Internal Signs														
Ascites	Clear													
	Bloody													
Oedema	In tissues													
Heart	Pale/anaemic													
	Granulomas													
	Deformed													
Liver	Petechial haem													
	Gross haem													
	Tissue breakdown													
	Enlarged													
	Colour number(s)													
	Granulomas													
	Lesions													
Pyloric caeca	Petechial haem													
	Tubules mauve													
	Lack of fat													
Spleen	Enlarged		W											
	Granulomas													
Gut	No food present	M	M											
	Yellow pseudo-faeces													
	External haem													
	Internal haem													
Body wall	Haemorrhaging													
Swim bladder	Haemorrhaging													
	Fluid filled													
Kidney	Swollen													
	Grey													
	Granular													
	Liquefied													
General	Parasites present													
	Anaemia													

Additional comments:

Site No: FS1296
Case No: 2023-0031
Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology





FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0119	DATE OF VISIT	09/11/2023
SITE No	FS1296	SITE NAME	Colonsay
CASE No	20230031	INSPECTOR	[REDACTED]

Section 1: Summary

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

Histopathological examination revealed features consistent with mild, multifocal, hyperplastic branchitis resembling amoebic gill disease, which was confirmed by qPCR. Epitheliocystis was also observed. Hepatocellular necrosis and mild, multifocal, myocarditis.

All fish sampled tested positive for *Neoparamoeba perurans* and *Paranucleospora theridion*. One fish tested positive for salmon gill poxvirus.

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 was inspected following reports of increased mortality by the farm operator. At the time of visit the site was stocked with 746,898 2023 Q1 Atlantic salmon at an average weight of 2.4kg.

Between weeks 41 and 43 2023 Colonsay reported a loss of 333,621 fish during a mortality event thought to be driven by AGD. The site treated with freshwater between weeks 41 and 42 which provided a positive outcome for the stocks gill health and aided in drastically reducing mortality. At the time of inspection in week 45 mortality at Colonsay had reduced back below the reporting threshold.

During the physical inspection of the site four fish were observed as moribund and lethargic across the entire site. Two fish from pen five were able to be captured by hand net and were removed for diagnostic sampling.

Prior to removal for sampling, both fish presented moribund and lethargic. The gills of both fish were pale, both fish had no food present in the gut and F2 had a slightly enlarged spleen.

Samples

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

Fish number	Species	Stage	Origin
F1	Atlantic Salmon	2023 Q1 2.4kg	Loch Lochy (FS0150)
F2	Atlantic Salmon	2023 Q1 2.4kg	Loch Lochy (FS0150)

Results

Bacteriology: Kidney and gill material from two fish was inoculated onto appropriate media for the isolation of bacteria.

No significant growth was observed.

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	22.08	29.50	29.53	29.68	POSITIVE
F2	-	-	-	-	Negative

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

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	22.08	28.75	28.86	28.80	POSITIVE
F2	22.18	32.30	32.27	32.13	POSITIVE

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	22.08	28.00	28.01	28.03	POSITIVE
F2	22.18	34.03	34.18	34.24	POSITIVE

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from F1 and F2. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Lamellar hyperplastic branchitis, mild to moderate, multifocal (F1, F2) with some lamellar vascular disturbances and cellular necrosis. Presence of several amoeboid cells resembling *Neoparamoeba perurans* observed in all fish and few basophilic epithelial inclusions (likely epitheliocystis). Aneurysmal dilation/Lamellar telangiectasia observed in all fish.

Skin & Muscle: Within normal range.

Heart: Mild, multifocal, myocarditis (F1). Mild epicarditis (F1, F2).

Gut and pyloric caeca: Within normal range.

Pancreas: Within normal range.

Liver: Hepatocellular necrosis, mild, multifocal and some inflammation (F1).

Kidney: Within normal range.

Spleen: Within normal range.

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

Signed:



Date: 06/12/2023

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/resources/consultations-petitions/Publications/2022/06/Fish_Health_Inspectorate_Service_Charter.pdf)

2023-0031

F1







F2





