

Case No: 2023-0458 Date of visit: 14/11/2023

Time spent on site: 4h Main Inspector: [Redacted]

Site No: FS1122 Site Name: Grey Horse Channel
Business No: FB0119 Business Name: Mowi Scotland Ltd

Case Types: 1 ECI 2 CNI 3 SLI 4 VMD 5 DIA 6 [Redacted]

Water Temp (°C): 10.9 Thermometer No: T173 FHI 045 completed [Redacted]

Observations: Region: WI Water type: S CoGP MA: W-11

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:
[Redacted]

Additional Case Information:

Peaks in salmon mortality 2022, wk 22 7457 (1.84%), wk 23 4,773 (1.22%), wk 24 5,449 (1.41%), wk 25 5,618 (1.48%), wk 26 7,432 (1.99%), wk 27 8,966 (2.60%), wk 28 4571 (2.03%) all AGD and seal predation with some physical damage. Wk 36 1396 (1.55%) all AGD, wk 37 2013 (1.51%), wk 38 2677 (1.16%), fw treatment losses.

Peaks in salmon mortality 2023, wk 35 14017 (1.23%), wk 36 24 989 (2.21%), wk 37 18820 (1.70%), wk 39 15408 (1.39%), wk 40 47228 (4.43%) AGD poor doers.

Salmon mortalities for the last four weeks, wk 44 32,807 (3.72%), wk 43 26590 (2.93%), wk 42 45,333 (4.75%), wk 41 63,864 (6.27%) mainly AGD and treatment losses but also some poor doers.

Peaks in lumpfish mortality 2023, wk 28 12,932 (7.51%), wk 29 28,381 (17.82%) tenacibaculum.

Peaks in wrasse mortality 2023 wk 41 5957 (19.95%) runts and some AGD recorded.

Lumpfish mortality last four weeks, wk45 159 (0.14%), wk 44 166 (0.15%), wk 43 430 (0.39%) wk 42 511 (0.46%).

Wrasse mortality, last four weeks, wk 45 532 (2.27%), wk 44 45 (0.19%), wk 43 214 (0.90%), wk 42 949 (3.86%)

Most recent treatments have included paramove in August and September, freshwater in November, October and September.

Lice numbers are currently low.

Piscirickettsia recently identified, antibiotic treatment is planned.

A number of lethargic and moribund fish observed in all cages.

Some walkways had minor damage following recent storms, these are to be repaired when possible.

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="14 100m circles"/>	Facilities stocked	<input type="text" value="14"/>	No facilities inspected	<input type="text" value="14"/>
Species	<input type="text" value="SAL"/>	<input type="text" value="WRS"/>	<input type="text" value="LUM"/>		
Age group	<input type="text" value="2023 q2"/>	<input type="text" value="Mix wild"/>	<input type="text" value="2023"/>		
No Fish	<input type="text" value="710,139"/>	<input type="text" value="23,405"/>	<input type="text" value="109,895"/>		
Mean Fish Wt	<input type="text" value="1.74kg"/>	<input type="text" value="N/A"/>	<input type="text" value="N/A"/>		
Next Fallow Date (Site)	<input type="text" value="August 2024"/>		Next Input Date (Site)	<input type="text" value="March 2025"/>	
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="AGD and Piscirickettsia"/>				

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:	TMS	
If other, detail:		
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)?	TMS	
If other, detail:		
6. Are medicines stored appropriately?	<input type="checkbox"/>	Y

Biosecurity Records

1. Biosecurity records available for inspection?	<input type="checkbox"/>	Y
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	<input type="checkbox"/>	Y
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"/>	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 <i>how</i> and <i>when</i> that will be notified to Scottish Ministers?	<input type="checkbox"/>	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)?	<input type="checkbox"/>	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.)?	<input type="checkbox"/>	Y
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	<input type="checkbox"/>	Y
8. Have the biosecurity procedures been adequately implemented on site?	<input type="checkbox"/>	Y
If no, detail:		

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).	Gill health, HSMI, AGD, Piscirickettsia	

Records checked between:	25/5/2022 to 14/11/2023
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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	6-7	8-9	10-11	12-13	14-15			
Pool Group	P1	P1	P1	P1	P1								
Species	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL			
Average weight	1.4000	1.4000	1.4000	1.4000	1.4000	1.4000	1.4000	1.4000	1.4000	1.4000			
Sex	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Water Type	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW			
Stock Details		Inchmore	Inchmore	Inchmore	Lochness	Lochness	Lochness	Inchmore	Inchmore	Inchmore	Inchmore		
	Stock Origin												
Facility No	11	11	11	10	10	11	6	5	4	7			

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Method of killing: Percussive

Date of visit: 14/11/2023

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)													
External Signs													
Behaviour	Moribund	W	W	W	W	W							
	Lethargic	S	S	S	S	S							
	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	w	m	w	w	w							
	Zoned					w							
	Necrotic	m	m	m	m	m							
Lesions	Flank												
	Elsewhere												
Vent	Inflamed												
	Trailing faeces												
Lice Load	Estimate numbers												
Internal Signs													
Ascites	Clear												
	Bloody												
Oedema	In tissues												
Heart	Pale/anaemic												
	Granulomas												
	Deformed	m	m	m	m	m							
Liver	Petechial haem												
	Gross haem												
	Tissue breakdown												
	Enlarged												
	Colour number(s)	4	4	4	4	4							
	Granulomas												
	Lesions												
Pyloric caeca	Petechial haem												
	Tubules mauve	m	w	m									
	Lack of fat	m	w	s									
Spleen	Enlarged	s	m	s	s	s							
	Granulomas			s	m	w							
Gut	No food present												
	Yellow pseudo-faeces	s	s	s	s	s							
	External haem												
	Internal haem												
Body wall	Haemorrhaging												
Swim bladder	Haemorrhaging												
	Fluid filled												
Kidney	Swollen	w											
	Grey	w											
	Granular	w											
	Liquefied												
General	Parasites present												
	Anaemia												

Additional comments:

Case Number:	2023-0458	Site No:	FS1122	Insp:		
Date of Visit	14/11/2023	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	0
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26	0
	Number of suppliers	0	5	10	14	0
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		2
	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				
	No	1				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				
Total Rank					21	
Rank					MEDIUM	

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Sea Lice Inspection (Seawater Sites Only)

- 1. Has the site experienced sea lice problems in the previous 4 years?
- 2. Is the CoGP Farm Management Area (or equivalent) fallowed synchronously on a single year class basis?
- 3. Does the site have access to a range of licenced in-feed and bath sea lice medications (including deltamethrin, azamethiphos and emamectin benzoate) as well as access to suitable biological and/or mechanical control measures, and can these be deployed in a reasonable period of time?
- 4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equivalent)?
- 5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6)
- 6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6)
- 7. Are sea lice (*L. salmonis*) record levels below the suggested criteria for treatment in the CoGP during the period that records are inspected? (CoGP Annex 6)
- 8. Have average adult female sea lice (*L. salmonis*) numbers per fish been at a level of 3 or above (prior to w/b 10/6/19) or 2 or above (from w/b 10/6/19) during the period that records are inspected?
- If yes, have these been reported to the Fish Health Inspectorate? If no, FHI see comment.
- 9. Is *C. elongatus* infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50)
- 10. Have therapeutic treatments been administered or other actions taken when *L. salmonis* levels have exceeded the suggested criteria for treatment or where *C. elongatus* is considered to have welfare implications? (CoGP 4.3.82, 5.3.51)
- 11. Has any other action been taken (where applicable)?
- 12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded?
- 13. Are treatments, where conducted, carried out in cooperation between participating farms?
- 14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for sea lice?
- 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during the escalation of a sea lice infestation?
- 16. Do the sea lice levels observed on stocks reflect sea lice count data? If no please detail reasons.

Containment Inspection

- 1. Has the site experienced equipment damage due to predators in the current or previous production cycles?
- 2. Are measures in place to mitigate against the predation experienced on site? (Detail below)

Seal pro, top nets, top nets secured to top line.

If other, detail below:

- 3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection?

If Yes proceed with questions 4 – 9. If No skip to question 10

- 4. Have these been reported to Scottish Ministers?
- 5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 7. Were methods (if any) used to recover escapees? If yes give detail

- 8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, CoGP – 4.4.38, 5.4.18)

- 9. What action was taken to prevent and minimise the risk of further escapes? (Not covered in code but could be considered under satisfactory measures of the Act)

- 10. Is the site inspected as satisfactory with regards to containment? If no, please detail reason(s)

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Date of Visit: 14/11/2023

Inspector: [REDACTED]

Point of Compliance

1. Is the farm under inspection located within a farm management area?

If N, no further questions require completion.

Points of Compliance for Both Farm Management Agreements and Statements

- 2. Has a current farm management agreement or statement (FMAg/S) been prepared?
- 3. Is the current FMAg/S available for inspection?
- 4. Does the FMAg/S identify the relevant farm management area?
- 5. Does the FMAg/S identify the fish farm site(s) to which it applies?
- 6. Does the FMAg/S identify the date of commencement of the agreement or statement?
- 7. Does the FMAg/S identify the date of review?

Arrangements for Fish Health Management

- 8. Does the FMAg/S identify the minimum health standards for the stocks to be introduced to the area or farm?
- 9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm?
- 10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm?
- 11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm?
- 12. Does the FMAg/S identify the arrangements for the storage and disposal of any dead fish from any fish farm in the area or the individual farm?

Arrangements for The Management of Sea Lice

- 13. Does the FMAg/S identify arrangements for the sharing of data on sea lice numbers and treatments?
- 14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement?
- 15. Does the FMAg/S identify any requirements for the sensitivity testing of available treatments for sea lice on farms in the area or individual farms?
- 16. Does the FMAg/S identify the circumstances under which biological controls and cleaner fish are to be used on farms in the area or individual farms?
- 17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area?

Live Fish Movements

- 18. Does the FMAg/S identify the circumstances when live fish may be introduced or removed from the area or farm?
- 19. Does the FMAg/S identify the arrangements for the movement of live fish on and off sites in the area or individual farms?

Harvesting

20. Does the FMAg/S identify acceptable harvest practices on farms in the area or individual farms?

Fallowing

21. Does the FMAg/S identify the dates by which the area or individual farm will be fallow and the earliest date when a farm or area may be restocked?

22. Does the FMAg/S identify whether one or more year classes may be stocked onto sites covered by the agreement or statement?

23. Does the FMAg/S identify whether broodstock or potential broodstock are to be kept on any site covered by the agreement or statement?

Point of Compliance for Farm Management Agreements Only

24. Does the farm management agreement include arrangements for persons to become, or cease to be, parties to the agreement?

Management and operation

25. Is the fish farm being managed and operated in accordance with the agreement or statement?

26. What is the version no/date of issue of the FMAg/S?

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 Site No: **FS1122** Inspector: **[REDACTED]**

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2 nd Insp
IHN (PCR) - IHNP	0/5	20/11/2023		20/11/2023		15/12/2023		
IPN (PCR) - IPNM	0/5	20/11/2023		20/11/2023		15/12/2023		
ISA (real time qPCR - heart & kidney) - ISAQ	0/5	20/11/2023		20/11/2023		15/12/2023		
Piscine myocarditis virus (CMS) (PCR) - PMVP	0/5	20/11/2023		20/11/2023		15/12/2023		
Salmonid alphavirus (SAV) (PCR) - SALP	0/5	20/11/2023		20/11/2023		15/12/2023		
VHS (PCR) - VHSP	0/5	20/11/2023		20/11/2023		15/12/2023		
Paranucleospora theridion (PCR) - PNST	5/5	21/11/2023		22/11/2023		15/12/2023		
Salmon gill poxvirus (PCR) - SPVP	5/5	21/11/2023		22/11/2023		15/12/2023		
AGD (Neoparamoeba perurans) (PCR) - AGDQ	4/5	21/11/2023		22/11/2023		15/12/2023		
Vibrio species (culture) - VSPE	3/5	28/11/2023		28/11/2023		15/12/2023		
Piscirickettsia salmonis (SRS) (histology) - PISH	3/5	06/12/2023		06/12/2023		15/12/2023		
Amoebic gill disease (histology) - AMGD	2/4	06/12/2023		06/12/2023		15/12/2023		
Epitheliocystis - EPIT	2/4	06/12/2023		06/12/2023		15/12/2023		
Gill pathology - GPAT	4/4	06/12/2023		06/12/2023		15/12/2023		
Granuloma - GRAN	1/5	06/12/2023		06/12/2023		15/12/2023		
Heart pathology - HPAT	5/5	06/12/2023		06/12/2023		15/12/2023		
Spleen pathology - SPAT	3/5	06/12/2023		06/12/2023		15/12/2023		
Kidney pathology - KPAT	5/5	06/12/2023		06/12/2023		15/12/2023		
Piscirickettsia salmonis (SRS) (PCR) - PISP	3/3	06/12/2023		06/12/2023		15/12/2023		

Report Summary			
Case Type	Date	Insp	2 nd Insp
ECI,CNI,SLI,VMD	22/11/2023		
DIA	15/12/2023		

		[Redacted]	[Redacted]



FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0119	DATE OF VISIT	14/11/2023
SITE No	FS1122	SITE NAME	Grey Horse Channel
CASE No	20230458	INSPECTOR	[REDACTED]

Section 1: Summary

The above site was inspected following reports of increased mortalities. A number of lethargic and moribund fish were observed in all pens, five were removed for further examination and subsequent diagnostic sampling.

Histopathology examination revealed mild pathology consistent with amoebic gill disease (confirmed by qPCR), pathology consistent with salmonid rickettsial septicaemia (SRS) (confirmed by qPCR) and one fish also displayed massive numbers of widespread eosinophilic granular cells.

Vibrio sp. was identified on plates taken from kidney material, the level and purity of growth overall would not suggest that this bacterium would be implicated as a primary pathogen, however the purity of growth observed in kidney material of F3 would suggest that the health of this individual fish may be affected.

Samples tested positive for the gill related pathogens: *Paranucleospora theridion*, salmon gill poxvirus (SGPV).

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

Elevated mortalities had been occurring on site since week 35 and peaking in wk 41 attributed mainly to AGD, mortalities have reduced but remained elevated. *Piscirickettsia* had recently been isolated and an antibiotic treatment was planned.

On inspection of the stocks a number of lethargic and moribund fish were observed in all pens, five were removed for further examination and diagnostic sampling.

All five fish sampled were lethargic and moribund with pale and necrotic gills with slight zoning in F5.

Internally all fish had deformed hearts. The pyloric caeca of F1-3 lacked fat and had mauve tubules. Splenomegaly was noted in all fish with granulomas on F3-5. The kidney of F1 was slightly swollen, grey and granular and yellow pseudo faeces was present in all fish.

Samples

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

Fish number	Facility number	Species	Stage	Origin
F1-3	11	A.salmon	1.7kg 2023 Q2	Inchmore
F4-5	10	A.salmon	1.7kg 2023 Q2	Loch Ness

Results

Bacteriology: Kidney and gill material from F1-5 were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria was isolated:

- *Vibrio* sp. (kidney F1,3 and 5)

Tissue samples from F1, 3 and 4 were tested for segments of nucleic acid indicative of the presence of the bacteria specified below using real-time PCR (qPCR).

Piscirickettsia salmonis

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	22.10	27.10	26.95	26.93	POSITIVE
F3	21.36	21.76	21.19	21.61	POSITIVE
F4	21.55	35.25	35.07	35.10	POSITIVE

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	21.74	39.26	39.54	>40	POSITIVE
F2	21.13	36.84	37.78	37.88	POSITIVE
F3	21.45	34.61	34.58	34.19	POSITIVE
F4	21.93	30.80	30.53	30.32	POSITIVE
F5	22.51	29.19	29.34	29.03	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) 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).

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.74	28.07	28.00	27.96	POSITIVE
F2	21.13	29.26	29.78	29.54	POSITIVE
F3	21.45	25.87	25.54	25.83	POSITIVE
F4	21.93	32.03	32.39	32.67	POSITIVE
F5	22.51	31.53	31.65	32.10	POSITIVE

Neoparamoeba perurans (AGD)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.74	31.12	30.94	30.90	POSITIVE
F2	21.13	29.04	29.49	29.35	POSITIVE
F3	21.45	27.20	27.04	27.44	POSITIVE
F4	21.93	33.71	33.83	33.10	POSITIVE
F5	-	-	-	-	Negative

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from F1-5. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Foci of filament necrosis with of few round blue structures resembling bacteria that stained Gram-negative (likely *Piscirickettsia* sp.) (F1, F3, F4). Few basophilic epithelial inclusions (likely epitheliocystis) observed in F2, F3 and few amoeboid cells resembling *Neoparamoeba perurans* observed F2, F3. F3 also displayed cell debris with bacteria associated among gill filaments. Lamellar telangiectasia with multifocal thrombosis (F1-F4) and free blood among gill filaments.

Skin & Muscle: Some isolated white fibre degeneration (F4).

Heart: Mild, multifocal myocarditis (F1, F5) some with round blue structures resembling bacteria (likely *Piscirickettsia* sp.) (F1). Ranging from mild to moderate, epicarditis and some with round blue structures resembling bacteria (likely *Piscirickettsia* sp.) (F1, F2, F3, F4).

Gut and pyloric caeca: Peritonitis, mild, multifocal (F1, F2, F3, F4) and presence of some to few round blue structures resembling bacteria (likely *Piscirickettsia* sp.) (F1, F2, F3).

Pancreas: Within normal range.

Liver: Capsulitis (F3) with few round blue structures resembling bacteria (likely *Piscirickettsia* sp.) (F1, F2). Hepatocellular necrosis, mild, multifocal (F1, F4) with few round blue structures resembling bacteria that stained Gram-negative (likely *Piscirickettsia* sp.) (F1). Hepatocellular vacuolation (macrovesicles), mild, multifocal (F2), some cuffing (F2). F4 also displayed a granuloma-like structure displaying some unknown parasite-like structures walled-off.

Kidney: Interstitial cell (haemopoietic) necrosis (F1) with few intracellular round blue structures resembling bacteria that stained Gram-negative (likely *Piscirickettsia* sp.) (F1, F3, F4). Some renal tubules display some hyaline droplets (F2, F4, F5). Massive numbers of eosinophilic granular cells observed interstitial cell (haemopoietic) of F3.

Spleen: Slightly congested and some evidence of erythrophagocytosis (F1). F1, F5 exhibited parenchymal necrosis with few round blue structures resembling bacteria that stained Gram-negative (likely *Piscirickettsia* sp.) (F1, F3). Massive (diffuse) numbers of eosinophilic granular cells observed on the parenchymal tissue of F3.

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

Signed:

A black rectangular box redacting the signature of the Fish Health Inspector.

Fish Health Inspector

Date: 12/12/2023

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-and-statements/fish-health-inspectorate-service-charter-2023-24/)



FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0119	DATE OF VISIT	14/11/2023
SITE No	FS1122	SITE NAME	Grey Horse Channel
CASE No	20230458	INSPECTOR	[REDACTED]

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009.

All epidemiological units were inspected. Samples were taken for diagnostic purposes. A separate report will be issued detailing the results of these tests.

Records

The surveillance frequency category of the site was assessed as medium. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted every second year. The category of the site will be reassessed on a routine basis and updated as required.

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 to ensure that the conditions of authorisation for your Aquaculture Production Business (APB) are being met:

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.

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 Directorate were available for inspection.

The biosecurity measures plan for the site was inspected and found to be adequately maintained and implemented.

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 were taken to be analysed for veterinary residues.

Inspection under the Aquaculture and Fisheries (Scotland) Act 2007

The site was also inspected in accordance with the Aquaculture and Fisheries (Scotland) Act 2007, as amended, with respect to section 3 regarding parasites (sea lice), section 4A regarding fish farm management agreements and statements and section 5 regarding containment and escapes.

On this occasion the site was found to be satisfactory with regards to parasites, fish farm management agreements and statements, containment and escapes.

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

Signed:



Date: 22/11/2023

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/policies/fish-health-inspectorate/)