

Case No: 2023-0058 Date of visit: 22/02/2023

Time spent on site: 6 hours Main Inspector:

Site No: FS0413 Site Name: Camas Glas
Business No: FB0119 Business Name: Mowi Scotland Ltd

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

Water Temp (°C): 8.5 Thermometer No: T147 FHI 045 completed N/A

Observations: Region: HI Water type: S CoGP MA M-34

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 currently holding approx. 300,000 fish for another site. These fish will be moved off in March/April and the remaining 6 pens will be split down to stock all 12 cages.

*Yersinia ruckeri* - antibiotics treatments just finished. Manager thinks this was brought about by stress of freshwater treatment 29th-31st December. Health surveillance Pharmaq report on 08/02/2023.

Antibiotic treatment was on the 9th February - Flofenicol In feed for 10 days. 500 degree day withdrawal period. Pens 1, 3, 5, 7, 9, 11. Morts have decreased but still remains an issue. Cage 7 was the worst due to freshwater issues when treating. Pen 2 and 6 haven't been treated. Product name - veterin 80.

ERM, RTFS, pasturella, furunculosis, IPN, - all fish on site vaccinated for.

SLICE 20th December - 27th December. Whole site treated. Recorded as 500 degree day withdrawal.

Peroxide bath treatment scheduled for next week for gill issues.

Ensiling system is new for this cycle - no movement off yet but will use Billy Bowie.

All lumpfish from Ocean matters. 22-27g Came in 13/10/22 and 12/01/2023.

Brand new seal pro nets this year with seal blinds.

Sealice treatment last cycle were Salmosan, SLICE, thermolicer, hydrolicer.

Paperwork inspected by [REDACTED], supervised by [REDACTED]. VMD sampled by [REDACTED]. Diagnostic F1,4 and 5 by [REDACTED], F2 and 3 by [REDACTED].

On inspection of pens approximately 10-20 moribund fish with popeye were observed in all pens except 2 and 6. Pen 7 had approximately 30 moribund fish observed.

Lumpfish mortality: Wk 4 - 1.51% (1421), Wk 5 - 2.71% (2506), Wk 6 - 3.07% (2630) and Wk 7 - 2.24% (1859)

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="12"/>	Facilities stocked	<input type="text" value="8"/>	No facilities inspected	<input type="text" value="12"/>
Species	<input type="text" value="SAL LUM"/>				
Age group	<input type="text" value="22 Q4"/>	<input type="text" value="2022 input"/>			
No Fish	<input type="text" value="1,100,061"/>	<input type="text" value="79,430"/>			
Mean Fish Wt	<input type="text" value="559g"/>	<input type="text" value="50g"/>			
Next Fallow Date (Site)	<input type="text" value="June 2024"/>		Next Input Date (Site)	<input type="text" value="October 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="Yersinia"/>				

**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:	Florfenicol, T.M.S.,	
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)?	Florfenicol, T.M.S., Slice	
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).	Yersinia - see additional info	

Records checked between:	5/08/2021 - 22/02/2023
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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	
Pool Group													
Species	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL
Average weight	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590	0.5590
Sex	N/A	N/A	N/A	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	SW	SW	SW
Stock Origin	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Lochy (FS0150)	Loch Ness (FS0434)
Facility No	7	7	7	7	7	1	1	5	5	9	9	6	

02/2023 Additional Sample Information:

5 Total Tests assigned 4

13																				
SAL																				
0.5590																				
N/A																				
SW																				
Loch Ness (FS0434)																				
6																				

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Site No: FS0413

Method of killing: Percussive

Date of visit: 22/02/2023

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	S	S	S	S	S				
	Lethargic	S	S	S	S	S				
	Hanging vertical									
	Spiralling									
	Flashing									
	Loss of equilibrium									
Body	Dark	S	S	S	S	S				
	Distended abdomen									
	Anorexic									
	Scale Oedema									
Opercula	Shortened									
	Flared									
Haemorrhaging	Throat									
	Ventrum									
	Base of fins									
	Elsewhere									
Eyes	Exophthalmic	S	S	S	S	S				
	Enophthalmic (sunken)									
	Cataract									
	Haemorrhagic									
Gills	Pale	M				M				
	Zoned									
	Necrotic									
Lesions	Flank		S							
	Elsewhere									
Vent	Inflamed									
	Trailing faeces									
Lice Load	Estimate numbers	1	0	0	2	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)	2	2	4	4	5				
	Granulomas									
	Lesions									
Pyloric caeca	Petechial haem	S								
	Tubules mauve									
	Lack of fat		S							
Spleen	Enlarged	S				S				
	Granulomas									
Gut	No food present		S	S	S					
	Yellow pseudo-faeces	S								
	External haem									
	Internal haem									
Body wall	Haemorrhaging	S								
Swim bladder	Haemorrhaging									
	Fluid filled									
Kidney	Swollen									
	Grey									
	Granular									
	Liquefied									
General	Parasites present									
	Anaemia									

Case no: 2023-0058

Date of visit: 22/02/2023

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

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	Cataract									
	Haemorrhagic									
Gills	Pale									
	Zoned									
	Necrotic									
Lesions	Flank									
	Elsewhere									
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	Granulomas									
	Deformed									
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	Gross haem									
	Tissue breakdown									
	Enlarged									
	Colour number(s)									
	Granulomas									
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	External haem									
	Internal haem									
Body wall	Haemorrhaging									
Swim bladder	Haemorrhaging									
	Fluid filled									
Kidney	Swollen									
	Grey									
	Granular									
	Liquefied									
General	Parasites present									
	Anaemia									



Additional comments:

F4: Adhesions in body cavity and very pale internally. F5: Pale pyloric caeca.

Case Number:	2023-0058	Site No:	FS0413	Insp:		
Date of Visit	22/02/2023	No of movements/supp./dest.			Score	
<b>Live fish movements</b>		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	6
<b>Exposure via water</b>	<b>Site contacts</b>	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		
<b>Management practices</b>		None	Secure	Unsecure		
Water contacts with processors	Any processing plant discharging into adjacent waters	0	1	2		1
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				0
	Common processes with other farms	3				
	Collection point for waste from other farms	5				
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0
	Feeding unpasteurised feed	5				
<b>Biosecurity</b>	<b>Number of sites</b>	1	2 or 3	≥ 4		
Contacts with other sites	Sites operating from single shorebase	0	1	2		0
	Sites sharing staff and equipment	0	1	2		0
Disinfection of equipment between sites, use of footbaths etc	Yes	0				
	No	1				
<b>CoGP/Regulator</b>						
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>18</b>	<b>MEDIUM</b>

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Site No: **FS0413**

**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)

If other, detail below:

Seal pro tensioned nets with seal blinds at the bottom. Weighted froyer ring keeping chains tight. 50kg slider weight in 10 positions. Uplift (250kg) in centre. Top nets.

- 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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Site No: FS0413

Date of Visit: 22/02/2023

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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Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology



Case No:	2023-0058	Date of visit:	22/02/2023
Site No:	FS0413	Inspector:	[REDACTED]

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2 <sup>nd</sup> Insp
MG IHN	0/2	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG IPN	0/2	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG ISA	0/2	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG PMCV	0/2	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG SAV	0/2	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG VHS	0/2	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG AGD	4/5	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG SAL POX	4/5	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
MG PARA THER	5/5	06/03/2023	AJW	06/03/2023	LVK	24/05/2023		
Yersinia ruckeri K	5/5	10/03/2023		10/03/2023		24/05/2023		
Yersinia ruckeri L	1/1	10/03/2023		10/03/2023		24/05/2023		
Vibrio sp. K	2/5	10/03/2023		10/03/2023		24/05/2023		
Vidrio sp L	1/1	10/03/2023		10/03/2023		24/05/2023		
EPIT	3/5	27/03/2023				24/05/2023		
GPAT	5/5	27/03/2023				24/05/2023		
SPAT	1/5	27/03/2023				24/05/2023		
SULK	1/5	27/03/2023				24/05/2023		
SKIN	1/5	27/03/2023				24/05/2023		
HPAT	5/5	27/03/2023				24/05/2023		

Report Summary			
Case Type	Date	Insp	2 <sup>nd</sup> Insp
ECI	02/03/2023		



# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0119	<b>DATE OF VISIT</b>	22/02/2023
<b>SITE No</b>	FS0413	<b>SITE NAME</b>	Camas Glas
<b>CASE No</b>	20230058	<b>INSPECTOR</b>	[REDACTED]

### Section 1: Summary

During the physical inspection of pens for the standard inspection at the above site many moribund fish were observed. Five fish were removed from pen 7 for diagnostic sampling.

Histopathology examination revealed mild, multifocal, hyperplastic branchitis. Fish also displayed ulcerative dermatitis with presence of Gram-negative rod-shaped bacteria which may impact on the osmotic balance. Also present was moderate to marked, multifocal myocarditis which could be related with common salmon cardiac disease or bacterial infection. Chronic, multifocal splenitis also observed (potentially associated with bacterial infection).

*Yersinia ruckeri* was identified on plates taken from kidney material of all five fish and the lesion of F2. *Yersinia ruckeri* is a primary pathogen and the level and purity observed would suggest that this is a primary source of morbidity observed on site.

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

During a routine inspection at Camas Glas site staff reported the presence of *Yersinia* and that the fish had been treated with the antibiotic florfenicol on the 9<sup>th</sup> February. During the physical inspection of the pens it was observed that all except pen 2 and 6 had between 10-20 moribund fish with a number of fish exhibiting exophthalmia. Pen 7 had the highest number of fish with exophthalmia and approximately 30 moribund fish. A small number of fish in various pens also had lesions along their flank. These lesions varied in size between approximately the size of a fifty pence piece to lesions several centimetres in diameter.

All five fish taken for diagnostic sampling were very lethargic, moribund fish with dark bodies. All had exophthalmia and F1 and F5 had pale gills. F2 had one larger lesion of approximately 5x4cm on the flank and a smaller lesion, approximately 1.5cm<sup>2</sup> at the base of the tail. Both lesions had no scales/skin, revealing the pink flesh underneath. The scales/skin surrounding the larger lesion by approximately 1cm were white. Sea lice load was very low with only one louse found on F1 and 2 lice on F4. Internally F1 and F5 had enlarged spleens. F1 had petechial haemorrhaging of the pyloric caeca, haemorrhaging of the body wall and yellow pseudo-faeces were present in the hind gut. F2 had a lack of fat on the pyloric caeca and F5 had very pale pyloric caeca. F4 was very pale

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](mailto:ms.fishhealth@gov.scot)

Website - [www.gov.scot/Topics/marine/science](http://www.gov.scot/Topics/marine/science)



internally and exhibited adhesions in the body cavity. No food was present in the hind gut of F2, F3 and F4.

### Samples

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

Fish number	Facility number	Species	Stage	Origin
1-5	7	Atlantic Salmon	559g 2022 Q4	Loch Lochy (FS0150)

### Results

**Bacteriology:** Kidney and gill material from F1 to F5 were inoculated onto appropriate media for the isolation of bacteria. Additionally, lesion material from F2 was inoculated onto appropriate media for the isolation of bacteria.

The following bacteria were isolated:

- *Yersinia ruckeri*: F1, F3, F4 and F5 (Kidney and Gill), F2 (Kidney, Gill and Lesion)
- *Vibrio sp.*:
  - Isolate A found in F1, F3, F4 and F5 (Kidney); F2 (Kidney, Lesion)
  - Isolate B found in F2 (Kidney, Lesion); F4 (Kidney)

In relation to *Yersinia ruckeri*:

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

The level and purity of *Vibrio sp.* would not suggest it would be implicated in morbidity as primary pathogens.

**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-pox virus (SGPV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.15	29.88	29.84	29.98	POSITIVE
F2	21.45	27.19	27.06	27.01	POSITIVE
F3	21.45	34.87	34.67	34.55	POSITIVE
F4	21.06	31.33	31.26	31.16	POSITIVE
F5	-	-	-	-	NEGATIVE

From the other samples tested by qPCR, F3 and F4 tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), infectious salmon anaemia virus (ISAV), salmonid alphavirus (SAV), viral haemorrhagic septicaemia virus (VHSV) and piscine myocarditis virus (PMCV). The other three fish were also tested but have been reported as “no result”.

The three samples which presented no results by qPCR were run by cell culture for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), viral haemorrhagic septicaemia virus (VHSV), infectious pancreatic necrosis virus (IPNV) and salmonid alphavirus (SAV). These tests were negative.

**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	21.15	31.10	31.05	30.81	POSITIVE
F2	21.45	29.50	29.54	29.50	POSITIVE
F3	21.45	30.79	30.57	30.56	POSITIVE
F4	21.06	29.63	29.52	29.51	POSITIVE
F5	-	-	-	-	NEGATIVE

*Paranucleospora theridion*

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.15	34.06	34.35	34.21	POSITIVE
F2	21.45	32.36	32.27	31.97	POSITIVE
F3	21.45	31.28	30.90	31.32	POSITIVE
F4	21.06	34.21	34.08	34.20	POSITIVE
F5	21.64	37.86	37.17	37.04	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 and fusion, mild, multifocal (F1-F5). Several basophilic epithelial inclusions (likely epitheliocystis) observed in F1-F3. All fish displayed post-mortem artefacts.

**Skin & Muscle:** F2 lesion: Absence of the epidermis, oedema of dermis, minor inflammatory cellular infiltration noted in the dermis, Gram-negative bacteria present on the dermal layer. Mild myositis.

**Heart:** Myocarditis multifocal, moderate to marked. Epicarditis, mild.

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](mailto:ms.fishhealth@gov.scot)

Website - [www.gov.scot/Topics/marine/science](http://www.gov.scot/Topics/marine/science)

Gut and pyloric caeca: Peritonitis.

Pancreas: Within the normal range.

Liver: Vasculitis (F1 & F2).

Kidney: Some hyaline droplets in the epithelium of renal tubule epithelium (F1). Reduction interstitial cell (haemopoietic), mild, multifocal (F2, F3, F4).

Spleen: Foci of granulomatous inflammation displaying centrally splendore-hoepli reaction (homogeneous eosinophilic material), small foci of necrosis and occasional multinucleated giant cells also observed, some features also observed on F3. F3 also displayed some evidence erythrophagocytosis.

Signed:



Fish Health Inspector

Date: 23/05/2023

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

<b>BUSINESS No</b>	FB0119	<b>DATE OF VISIT</b>	22/02/2023
<b>SITE No</b>	FS0413	<b>SITE NAME</b>	Camas Glas
<b>CASE No</b>	20230058	<b>INSPECTOR</b>	

### 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 Scotland 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.

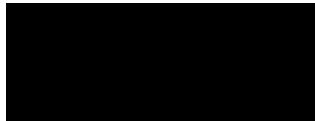
## **Inspection under the Aquaculture and Fisheries (Scotland) Act 2007**

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 and 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: 02/03/2023

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/>





