Case No:	2023-0540	Date of visit:	28/11/2023
Time spent on site:	2hrs	Main Inspector:	[redacted]
Site No:	FS0465	Site Name:	Shuna Castle
Business No:	FB0134	Business Name:	Kames Fish Farming Ltd

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

Water Temp (°C): 11.38 Thermometer No: T308 FHI 045 completed

Observations: Region: ST Water type: S CoGP MA: M-40

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:

Stock on site from Westmill Hatchery (Troutlodge; pen 2 & 3) and Torhouse Mill (KFF own stock)

Mortality attributed to jellyfish insult experienced in summer 2023 and only slowly recovering. Secondary infection of tenacibaculum, PRV and Piscirickesttsia salmonis, with the latter being described as sub-clinical. Recent thermolicing treatment conducted over weekend of 24/11 and 25/11 has exacerbated mortalities (in all pens). Lice numbers in loch have started to creep up in recent weeks, therefore interventioned was conducted.

Targeted harvests were occuring on site during site inspection; plan is to have 4 pens remaining by end December 2023. Site is planning to fallow out in July 2024.

Site is planning to change its nets after the next crop to CFR nets- same as the ones recently installed at Eilean Coltair.

During site inspection, a number of moribund fish were seen in pen 3 and pen 2. These pens are stocked with Westmill Hatchery fish (origin:Troutlodge). Pens 10 and 8 were also observed with an increased number of moribunds. A small number of fish on site were observed with large circular lesions but were not able to be caught for sampling. Healing lice damage and lesions on the head were also seen in some of the fish; some of these fish were removed for diagnostic sampling. Diagnostic samples were taken from pen 3 and pen 5 (three from the former and two from the latter pen).

Case No: 2023-0540 Site No: FS0465

Date of Visit: 28/11/2023 Inspector(s): [redacted]

Registration/Authorisation Details

1. Business/site details summary checked by site representative?	Y
2. Changes made to details?	N

Site Details (include cleaner fish for all sections)

Total No facilities: 10 Facilities stocked: 9 No facilities inspected:

Species	RTR						
Age group	2022						
No Fish	156,101						
Mean Fish Wt	2.87kg						

Next Fallow Date (Site): July 2024 Next Input Date (Site): End October/ early Nov 2024

Recent (last 4 wks) disease problems? Y Any escapes (since last visit)?

If yes, detail: Tenacibaculum spp. T.maritimum, PRV3, SRS

Movement Records

1. Movement records available for inspection?	
2. Date of last inspection:	03/10/2023
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? Other (detail)

If other detail: Ensiled at Kames Pier and then taken away via fergusons.

3. Mortality records complete and correctly entered?
4. Recent mortality (last 4 wks): 2023: Wk 47, 1.80%, 2931; Wk 46, 1.60%, 2645; Wk45, 0.85%, 1413; W 2956
5. Evidence of recent increased/atypical mortalities?

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

pen 2 and 3 most affected: WK 46 pen 2, 8.92%, 770; pen 3, 9.77%, 901 (attributed due to lesions from Tenacibacu pen 2,9.47%, 744; pen 3, 3.85%, 594 (attributed due to lesions from Tenacibaculum).

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* (*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): reporting from health manager 20/11/2023: Tenacibaculum maritimum (7/9), Piscirickett only in the troulodge stock (pen 3)) with the identified as the main cause. SRS at sub-cl and dermic feed is being fed.

Records checked between: 03/10/2023-28/11/2023

10

N

Y

Y
Y
Y
N/A

Y
Y

Y

Y

Vk44, 1.74%,

Y

lum). Wk47

N

N/A

Y

Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
ttsia (1/9 and
former
inical levels

Case no:	2023-0540	Site No:	FS0465	Date of visit/ Sampling:	28/11/2023	28/1							
Priority samples:	VI		BA		PA		MG		HI				
Time sampling starts/ends:	10:40:00	12:20:00	Inspector:		VMD No.	0							
Environmental conditions:	1	Sunny	2	Dry	3		4		5				
Summary samples	HIST	#REF!	BA	#REF!	MG	#REF!	VI	#REF!	PA	#REF!	Total Samples		

Add Fish/Pools - click

	Pool/Fish No	F1	F2	F3	F4	F5							
	Fish nos	1	2	3	4	5							
	Pool Group	P1	P2	P3	P4	P5							
Stock Details	Species	RTR	RTR	RTR	RTR	RTR							
	Average weight	2.7kg	2.7kg	2.7kg	2.7kg	2.7kg							
	Sex	N/A	N/A	N/A	N/A	N/A							
	Water Type	SW	SW	SW	SW	SW							
	Stock Origin	Torhouse Mill (FS0560)	Torhouse Mill (FS0560)	Westmill Fish Farm (FS0606)	Westmill Fish Farm (FS0606)	Westmill Fish Farm (FS0606)							
	Facility No	5	5	3	3	3							

11/2023 Additional Sample Information:

5 Total Tests assigned 6

Case no: 2023-0540 Site No: FS0465 Method of killing: Percussive

Date of visit: 28/11/2023 Inspector(s): [redacted] 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)		50mins	75mins	80mins	105min	120min					
External Signs											
Behaviour	Moribund	S	S	S	S	S					
	Lethargic	M	M	M	M	M					
	Hanging vertical										
	Spiralling										
	Flashing		W								
	Loss of equilibrium										
Body	Dark										
	Distended abdomen										
	Anorexic										
	Scale Oedema										
Opercula	Shortened		W								
	Flared										
Haemorrhaging	Throat										
	Ventrum										
	Base of fins										
	Elsewhere										
Eyes	Exophthalmic										
	Enophthalmic (sunken)										
	Cataract	M									
	Haemorrhagic										
Gills	Pale										
	Zoned	S	W		M						
	Necrotic										
Lesions	Flank										
	Elsewhere			S	S	S					
Vent	Inflamed	M	W	M	M	M					
	Trailing faeces										
Lice Load	Estimate numbers	16	10	15	10	10					
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	5	3	3	3					
	Granulomas										
	Lesions										
Pyloric caeca	Petechial haem										
	Tubules mauve										
	Lack of fat										
Spleen	Enlarged	M	M	M	M	M					
	Granulomas										
Gut	No food present	S	S	S	S	S					
	Yellow pseudo-faeces	M	M	M	M	S					
	External haem										
	Internal haem										
Body wall	Haemorrhaging										
Swim bladder	Haemorrhaging										
	Fluid filled										
Kidney	Swollen										
	Grey										
	Granular										
	Liquefied			W							
General	Parasites present										
	Anaemia										

Case no: 2023-0540

Date of visit: 28/11/2023

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

Fish Number											
Time sampled after death (if > 45 minutes)											
External Signs											
Behaviour	**Moribund**										
	Lethargic										
	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**										
	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**										
	Granulomas										
Gut	**No food present**										
	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:

Case Number:	2023-0540		Site No:	FS0465	Insp:	
Date of Visit	28/11/2023					

Live fish movements		**No of movements/supp./dest.** 0	1-5	6-10	>10	**Score**
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	
	Number of suppliers	0	5	10	14	0
Movements off	Frequency of movements off	0	3	6	10	6
	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	4
	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	0
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	2
	Sites sharing staff and equipment	0	1	2	0

Disinfection of equipment between sites, use of footbaths etc	Yes	0	0
	No	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	**18**
Rank	**MEDIUM**

Case No: 2023-0540 Site No:

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 well as access to suitable biological and/or mechanical control measures, and can these be deployed in a reasonable period of
4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management A
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 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 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 suggest 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 scer 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)

bird nets,

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? 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)

FS0465

	N
	N
s and emamectin benzoate) as time?	Y
Area (or equivalent)?	Y
	Y
	Y
are inspected? (CoGP Annex	N
above (from w/b 10/6/19)	Y
	Y
	Y
ed criteria for treatment or	Y
	N/A
	Y
	Y
?	Y
narios during the escalation of	Y
	Y
	N
	Y
	N
(Legal, CoGP – 4.4.38,	
	Y

Case No: 2023-0540 Site No: FS0465

Date of Visit: 28/11/2023 Inspector: [redacted]

Point of Compliance

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

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

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?	Y
9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm?	Y
10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm?	Y
11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm?	Y
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?	Y

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?	Y
14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement?	Y
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?	Y
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?	Y
17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area?	Y

Live Fish Movements

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

Harvesting

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

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?	Y
22. Does the FMAg/S identify whether one or more year classes may be stocked onto sites covered by the agreement or statement?	Y
23. Does the FMAg/S identify whether broodstock or potential broodstock are to be kept on any site covered by the agreement or statement?	Y

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?	Y

Management and operation

25. Is the fish farm being managed and operated in accordance with the agreement or statement?	Y
26. What is the version no/date of issue of the FMAg/S?	April 2023 V12

Case No: 2023-0540 Date of visit: 28/11/2023

Site No: FS0465 Inspector: [redacted]

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp
AGDQ	3/5	15/12/2023		15/12/2023		23/01/2024		
PNST	4/5	15/12/2023		15/12/2023		23/01/2024		
VSPE	3/5	15/12/2023		15/12/2023		23/01/2024		
VSPE	5/5	15/12/2023		15/12/2023		23/01/2024		
PMVP	0/5	15/12/2023		15/12/2023		23/01/2024		
PRVP	0/5	15/12/2023		15/12/2023		23/01/2024		
SPVP	0/5	15/12/2023		15/12/2023		23/01/2024		
SALP	0/5	15/12/2023		15/12/2023		23/01/2024		
VHSP	0/5	15/12/2023		15/12/2023		23/01/2024		
IHNP	0/5	15/12/2023		15/12/2023		23/01/2024		
ISAQ	0/5	15/12/2023		15/12/2023		23/01/2024		
PISP	0/5	15/12/2023		15/12/2023		23/01/2024		
GPAT	5/5	22/01/2024		22/01/2024		23/01/2024		
AMGD	1/5	22/01/2024		22/01/2024		23/01/2024		
LPAT	5/5	22/01/2024		22/01/2024		23/01/2024		
KPAT	4/5	22/01/2024		22/01/2024		23/01/2024		

Report Summary			
Case Type	Date	Insp	2nd Insp
ECI, CNI, SLI	18/12/2023		
DIAG	23/01/2024		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0134	**DATE OF VISIT**	28/11/2023
SITE NO	FS0465	**SITE NAME**	Shuna Castle
CASE NO	20230540	**INSPECTOR**	[redacted]

Section 1: Summary

During a routine site inspection, a number of moribund rainbow trout with clinical signs of disease were observed in five pens. Five fish were removed for further examination and subsequent diagnostic sampling.

Histopathological examination revealed features consistent with mild, multifocal, hyperplasic bronchitis. Amoebic gill disease (AGD) was observed and *Neoparamoeba perurans* was confirmed by qPCR. *Paranucleospora theridion* was also detected by qPCR. Hepatocellular necrosis was observed in one fish.

Vibrio sp. was identified. The level and purity would suggest that although this bacterium was observed in significant numbers it is most likely to be present as a secondary pathogen in this case.

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 site inspection a number of moribund rainbow trout with clinical signs of disease, were observed in pens 2, 3, 5, 8 and 10. Five were removed for further examination and subsequent diagnostic sampling from pens 3 and 5.

At the time of the inspection the site was stocked with 156,101 2022 rainbow trout at an average weight of 2.87kg.

All five fish sampled were moribund and lethargic. Externally, all fish had inflamed vents; F3-F5 had ulcerative head lesions consistent with sea lice damage; gills on F1, F2, and F4 displayed zoning. Cataracts were observed in F1. F2 was also seen to be flashing in the pen. The lice load on all fish was moderate, with estimate numbers between 10 to 16 lice per fish.

Internally, all fish were observed with enlarged spleens and yellow pseudo-faeces. No food was present in the guts. The kidney in F3 appeared liquefied.

Samples

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

UKAS Accredited Inspection Body - Type C No. 0269
Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Email – ms.fishhealth@gov.scot
Website - https://www.gov.scot/policies/fish-health-inspectorate/

Fish number	Facility number	Species	Stage	Origin
F1-F2	5	Rainbow trout	2022, 2.7kg	Torhouse Mill (FS0560)
F3-F5	3	Rainbow trout	2022, 2.7kg	Westmill Fish Farm (FS0606)

Results

Bacteriology: Kidney, gill, and lesion material from five fish were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria were isolated:

- *Vibrio* sp. (kidney F2-F4; lesion F3-F5 and; gill F1-F5)

Kidney samples were tested for segments of nucleic acid indicative of the presence of *Piscirickettsia salmonis* using real-time PCR (qPCR). The samples tested 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).

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

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		-	-	-	Negative
F2	19.04	30.16	30.06	30.01	POSITIVE
F3	19.97	35.00	34.61	33.93	POSITIVE
F4	20.45	29.76	29.53	29.60	POSITIVE
F5		-	-	-	Negative

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.10	37.27	37.35	36.43	POSITIVE
F2	19.04	35.17	37.37	35.72	POSITIVE
F3	19.97	34.39	34.41	34.44	POSITIVE
F4	20.45	36.56	37.90	35.45	POSITIVE
F5		-	-	-	Negative

UKAS Accredited Inspection Body - Type C No. 0269
Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Email – ms.fishhealth@gov.scot
Website - https://www.gov.scot/policies/fish-health-inspectorate/

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 hyperplasic branchitis, ranging from very mild to mild, multifocal (F1-F5) and lamellar adhesions (F1, F2), vascular disturbances (F1, F4 & F5) with areas haemorrhage (F1). Presence of few amoeboid cells resembling *Neoparamoeba perurans* observed in F2. Cell debris with bacteria between gill filaments observed in F1, some lamellar tip clubbing observed in F2. Some aneurysmal dilation/telangiectasia (F1).

Skin & Muscle: Within normal range.

Heart: Small areas of light H&E stain observed in the compact layer of ventricle chamber, very mild (F4) and one thrombus (F4). F5 displayed some minor necrosis at the atrium chamber.

Gut and pyloric caeca: Mild peritonitis (F2). F4 displayed hindgut with some fold congestion. F3: Almost not pyloric caeca.

Pancreas: Within the normal range. F3: Pancreas tissue almost non-existent.

Liver: Hepatocellular spotty necrosis, mild, multifocal (F1), hepatocellular vacuolation (macrovesicles), mild, diffuse (F1) and F3 to a lesser extent. F4 exhibited spotty infiltration, focal. F2 displayed some congested vessels. F5: Liver tissue not in section.

Kidney: Several renal tubules displaying mineralisation (F1) and few renal tubules exhibiting epithelial vacuolation. F3-F5 displayed some interstitial congestion and neutrophil-like influx. Hyaline droplets observed in the lining epithelium of the renal tubules of F4.

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: [redacted] Date: 23/01/2024

pp [redacted]
Senior Fish Health Inspector

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FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0134	**DATE OF VISIT**	28/11/2023
SITE NO	FS0465	**SITE NAME**	Shuna Castle
CASE NO	20230540	**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. On this occasion no samples were taken for disease analysis. The Inspector did not observe any clinical signs associated with the listed diseases as described in the Aquatic Animal Health (Scotland) Regulations 2009.

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.

Records in relation to aquaculture animals transported by the business were inspected and found 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.

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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.

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: 18/12/2023

Fish Health Inspector

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Diagnostic case: 2023 – 0540

Figure 1 Overview of fish 1

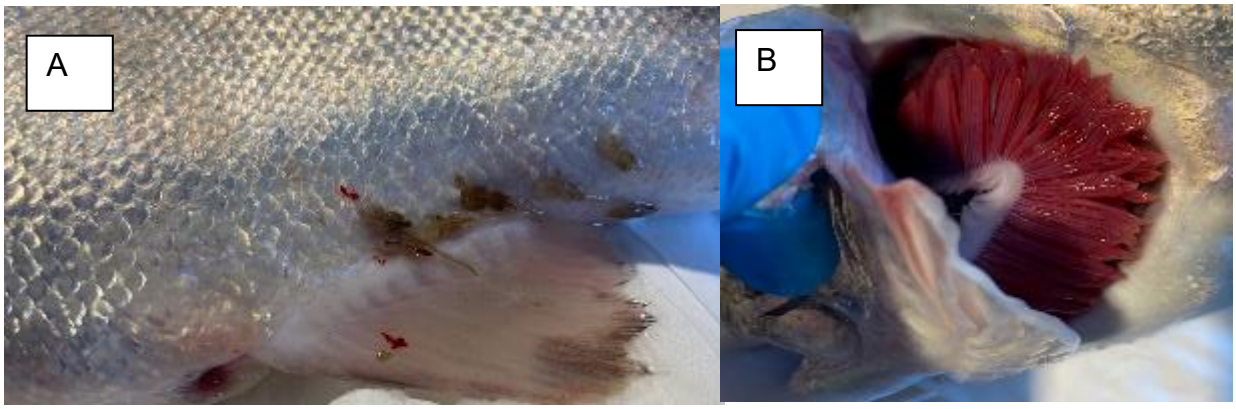

Figure 2 A) Picture of vent and lice on fish 1. B) Picture of gill from fish 1

Figure 3 Internal view of fish 1

Figure 4 External view of fish 2

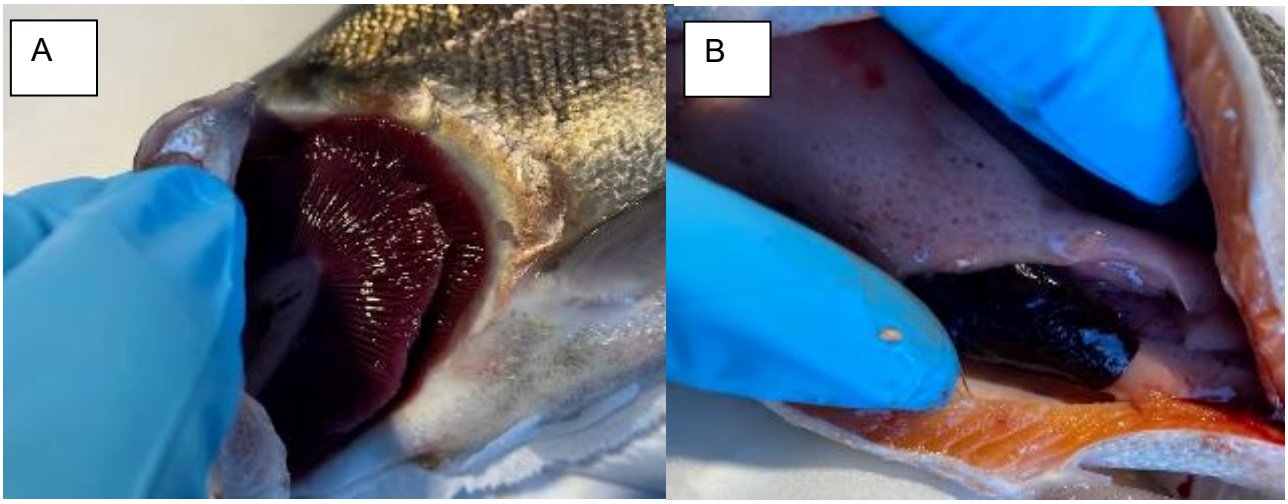

Figure 5 A) Gill from fish 2. B) Picture of spleen

Figure 6 internal view of fish 2

Figure 7 external view of fish 3

Figure 8 Gill of fish 3

Figure 9 internal view of fish 3

Figure 10 external view of fish 4

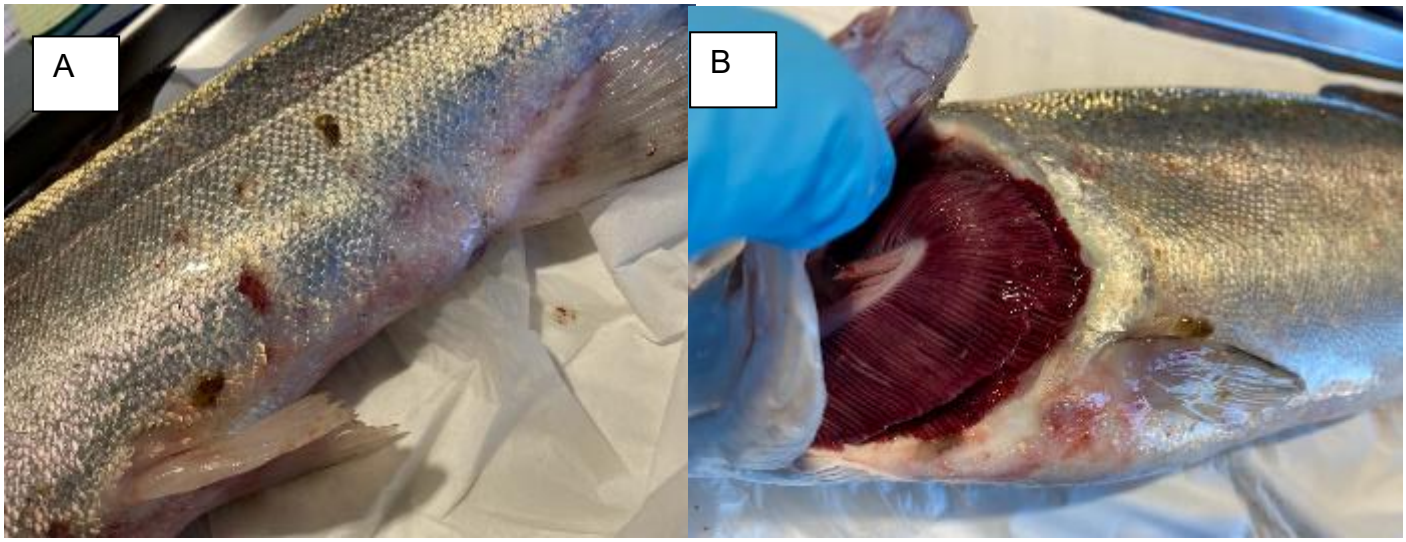

Figure 11 A) view of lesions of fish 4. B) gill of fish 4

Figure 12 internal view of fish 4

Figure 13 external view of fish 5

Figure 14 Gill of fish 5

Figure 15 internal view of fish 5