FHI 059, Version 13		Issued by: FHI	Date of issue: 12/05/2020
Case No: 2022-0485			Date of visit: 11/10/2022
Time spent on site: 5	hours	Main Inspe	ctor:
Site No: FS0851 Business No: FB0169	Site Name: Business Name:	Ardgadden Bakkafrost Scotland	
Case Types: 1 ECI 2	CNI 3 SLI	4 VMD 5 DIA	6
Water Temp (°C): 12.6	Thermometer No:	T155	FHI 045 completed
Observations:	Region: ST	Water type: S	CoGP MA: M-42
Dead/weak/abnormally behaving a Clinical signs of disease observed Gross pathology observed? Diagnostic samples taken?	•	Y If yes, see additional inf	formation/clinical score sheet. formation/clinical score sheet. formation/clinical score sheet.
UNI/REG only - if unable to carry	out intended visit deta	il reason below:	

Additional Case Information:

Cleaner fish stocks attributed as black loss. Have experienced poor performance of cleaner fish - both wrasse and lumpfish on site. Constant low level mortality since inputs with occasional instant losses after input. AGD identified within stocks but uncertain of cause of mortality. Company considers no remaining stock on site although a small number of wrasse were observed.

Several lethargic fish (Atlantic salmon) observed across the site but not in great numbers. 3 fish removed for diagnostic sampling.

4 x slice treatments since input, 4 fw,1 Salmosan + FW - whole site. Hydrolysing one and a half rounds.

FHI 059, Version 13			Issu	ed by: FHI			Date of issu	e: 12/05/2020
Case No:	2022-0485		Site No:	FS0851]			
Date of Visit:		11/10/2022	2]		Inspector(s)	:		j
Registration/Autho	risation Deta	ails						
1. Business/site deta			ite representa	ative?			Y	
2. Changes made to	•						Y	1
Site Details (include	e cleaner fis	h for all sect	ions)					
Total No facilities		14	Facilities sto	cked	14	No facilitie	s inspected	14
	Atlantic							
Species	salmon							
Age group	2021 S0							
No Fish	494,461							
Mean Fish Wt	2.9kg							
Next Fallow Date (Si	,	June 2023		Next Input Da		Autumn 20		
Recent (last 4 wks) of	disease probl	ems?		Y	Any escapes	s (since last	visit)?	N
If yes, detail:	AGD and an	aemia, micro-	-jellies as pred	cursor.(Slight t	ouch of PD -	6 weeks ago	in a small no	of fish)
 Movement records Date of last inspect Are records comp Are movement records Are records comp Are health certificat Transport Records Are any movement If yes, is there a syst Mortality Records Mortality records 	ction: blete and corre cords available blete and corre ates for introd ates carried out tem in place for	ectly entered? le for dead fis ectly entered? ductions (outw t by (or on bel	sh and waste? ? vith GB) availa half) of the bu	able? usiness (not us			21/10/2020	Y Y Y N/A
2. How are mortalitie		•			Whole fish -	· Dundas Che	omicals	
If other detail:	is disposed of	f			VVIIOLE 11311	Dunuas One	Hilicais	
3. Mortality records of	complete and	correctly enty	orod?					Y
4. Recent mortality (Correctly erite		fich 0.940/ fo	r poot 4 wool	10 (w/c 27 /	05% 22 000	
5. Evidence of recen	•	traical mortal		fish - 9.84% fo	i pasi 4 weer	(S (WK 31 - 4.	05%, 23,990	, WK 30 -
		* *		/rosson:				<u> </u>
If yes, facility nos/no		•			1	lata di sana	DD innest	
2 ~15%/6k; 3 ~30%/				24%/10K - Mair	nly gill health	related, som	e PD impact	
6. Any other peaks in				,				
If yes, detail:				Post transfer in ds the end of the	•		•	
7. Have increased (u		mortalities he	en reported to	o vet or FHI2				Y
If yes, detail action:					olth managar			
f yes, detail action: Sample analysis undertaken by vet / health manager B. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.							Y	

Treatments and Medicines Records									
1. Recent treatments (see comment)?	Y								
If yes, detail: T.M.S.									
If other, detail:									
2. Medicines records available for inspection?	Υ								
3. Are records complete and correctly entered?	Y								
4. Are fish in a withdrawal period?	Υ								
5. If yes, what treatment(s)?									
If other, detail:									
6. Are medicines stored appropriately?	Υ								
Biosecurity Records									
Biosecurity records available for inspection? Y									
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?	Υ								
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher	Υ								
health status, certification if required)?									
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise	Y								
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	Y								
aquaculture animals held on site?									
8. Have the biosecurity procedures been adequately implemented on site?	Υ								
If no, detail:									
Results of Surveillance									
Has any animal health surveillance been carried out by, or on behalf of, the business?	Y								
2. If yes, are results available for inspection?	Y								
3. Any significant results?									
If yes, detail (if not detailed under recent disease problems). PD, SAV, Gill pathology, AGD, PRV, SGPVD,									
Records checked between:									

٠.	11 000, VEISIOII 10							issued by			
	Case no:	2022-04	185	Site No:		FS0851		Date o		11/10/2022	11/ ⁻
	Priority samples:	VI		ВА		PA		Sampli MG	ing:	\neg	
	Time sampling starts/ends:		80:00		0:00		Inspector			D No.	17
	Environmental conditions:	1	Indoors	2	Dry	3	Sunny	4 Cloudy	5	_	
	Summary samples	HIST	Y	ВА	Y	MG	Y	VI	РА	Total Sa	amples
A	dd Fish/Pools - click										
	Pool/Fish No	F1	F2	F3							
	Fish nos	1	2	3	4	5	6				
	Pool Group										
	Species	SAL	SAL	SAL	SAL	SAL	SAL				
	Average weight	2.7000	2.7000	2.7000	2.7000	2.7000	2.7000				
	Sex	N/A	N/A	N/A	N/A	N/A	N/A				
	Water Type	SW	SW	SW	SW	SW	SW				
		"					, n				
Details		So					l ss				
ets		ac .	ae	ale	ale	ale	ec.				
Ō		Applecross	Migdale	Migdale	Migdale	Migdale	Applecross				
Stock	Stock Origin				Ξ						
St	Facility No	13	6	11	3	7	14				

10/2022 Additional Sample Information:													
	3 fish s	tandard	SW dia	gnostic s	sample.	VMD or	nly from	fish 4, 5	and 6.				
Total Tests assigned 3													

FHI 059, Version 13 Issued by: FHI Date of issue: 12/05/2020 Method of killing: Anaesthetic Case no: 2022-0485 Site No: FS0851 Inspector(s): Sheet Relevant: Y Date of visit: 11/10/2022 S for strong presence: M for medium presence: W for weak presence 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 S S Zoned Necrotic M Lesions Flank **Elsewhere** Vent Inflamed Trailing faeces Lice Load Estimate numbers Internal Signs Clear **Ascites** W 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 No food present Gut S Yellow pseudo-faeces External haem Internal haem Body wall Haemorrhaging Haemorrhaging Swim bladder W S Fluid filled Kidney Swollen Grey

Granular
Liquefied
Parasites present

Anaemia

General

Case no: 2022-0485

Date of visit: 11/10/2022

Date of visit:	11/10/2022	4					
S for strong presen	nce: M for medium presence: W for	14					
Fish Number	nce. W for medium presence. W for	VI					
	er death (if > 45 minutes)						
	ter death (if > 45 minutes)						
External Signs Behaviour	Moribund						
Denaviour	Lethargic						
	Hanging vertical						
	Spiralling						
	Flashing						
	Loss of equilibrium						
Body	Dark						
Douy	Distended abdomen						
	Anorexic						
	Scale Oedema						
Opercula	Shortened						
o por ouru	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						
Pyloric caeca	Lesions Petechial haem						
i yioric caeca	Tubules mauve						
	Lack of fat						
Spleen	Enlarged						
Оріссії	Granulomas						
Gut	No food present						
- ui	Yellow pseudo-faeces						
	External haem						
	Internal haem						
Body wall	Haemorrhaging						
Swim bladder	Haemorrhaging						
	Fluid filled						
Kidney	Swollen						
	Grey						
	Granular						
	Liquefied						
General	Parasites present						
	Anaemia						
	, aluciniu						

FHI 059, Version 13		Issued by: FHI			Date of	of issue	: 12/05/2020
Case Number:	2022-0485		Site No:	FS0851		Insp:	
Date of Visit	11/10/2022		No of m	ovements/s	supp./dest.		Score
Live fish movements			0	1-5	6-10	>10	
Movements on (from out	Frequency of m	ovements on from equivalent MS	0	5	10	14	0
with GB) of susceptible species		ovements on from equivalent zone or	0	9	18	26	0
opeolog	Number of supp	cluding third country	0		10	14	0
NA							10
Movements off	Frequency of m Number of dest		0		6	10 10	10
Exposure via water	Transor or door	Site contacts			6-10		
Water contacts with other farms (holding species	Farm is protect disinfection or b	ed (secure water supply through	0				
susceptible to same diseases)	Farm is on-line	or in a coastal zone with category I	1	2	4		2
a	Farm is on-line	or in a coastal zone with category III	1	3	6		
	Farm is on-line	or in a coastal zone with category V	1	4	8		
	lainis upstream	TOT WITHIN T Hadi excursion	Nan-				
Management practices Water contacts with	Any processing	plant discharging into adjacent waters	None	Secure	Unsecure		
processors	Any processing	piant discharging into adjacent waters	0	1	2		0
On farm processing within the rules of the directive	No on farm pro		0				0
	Processing owr	n fish (re-cycling risk)	1				
	Processing fish	from MS of equivalent status	2				
	Processing fish equivalent statu	from zone or compartment of	4				
		from Category III farm	8				
	Processing fish	from Category V farm	10				
Disposal of fish and fish by-	Site's own wast	e only processed.	0				
products	Common proce	sses with other farms	3				
	Collection point	for waste from other farms	5				5
Use of unpasteurised feeds	No feeding of u	npasteurised feed	0]			0
	Feeding unpast	teurised feed	5	1			
Biosecurity		Number of sites	1	2 or 3	≥ 4		
Contacts with other sites	Sites operating	from single shorebase	0	1	2		2
	Sites sharing st	aff and equipment	0	1	2		2
Disinfection of equipment between sites, use of	Yes		0				0
footbaths etc	No		1				
CoGP/Regulator				1			
Practices in accordance with regulator or industry	Yes		0				0
code of practice	No		3				
Platform access to cages	Yes		0				0
	No		2				
					Total		24
					Rank		MEDIUM

FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020
Case No: 2022-0485	Site No: FS0851	
Date of Visit: 11/10/2022	Inspector:	
Point of Compliance		
1. Is the farm under inspection located	within a farm management area?	Υ
If N, no further questions require comple	letion.	
2. Has a current farm management agra. Is the current FMAg/S available for in 4. Does the FMAg/S identify the relevant 5. Does the FMAg/S identify the fish far 6. Does the FMAg/S identify the date of 7. Does the FMAg/S identify the date of 6. Does the FMAg/S identify the date of 6. Does the FMAg/S identify the minimulator of 6. Does the FMAg/S identify the minimulator of 6. Does the FMAg/S identify the vaccina 6. Does the FMAg/S identify the specification. Does the FMAg/S identify the maximinal form?	ont farm management area? It farm management area? It commencement of the agreement or state of review? It commencement of the agreement or state of review? It commencement of the agreement or state of review? It commencement of the agreement or state of the standards for the stocks to be interested in the agreement of the agreement of the agreement of the agreement of the storage and disposal of an agreements for the storage and disposal of an agreement of the storage and disposal of the storage agreement of the storage agr	ement? ement? roduced to the area or ea or farm? ea or farm? rm in the area or the
Arrangements for The Management of 13. Does the FMAg/S identify arrangement	of Sea Lice nents for the sharing of data on sea lice nur	mbers and treatments?
of statement?	ability and the use of medicines on farms co	
lice on farms in the area or individual fa		i leatifierts for sea
	mstances under which biological controls a	rms within the area?
	gements for synchronous treatments on fai	rms within the area?
area or farm? 19. Does the FMAg/S identify the arrang	mstances when live fish may be introduced gements for the movement of live fish on a	
or individual farms?		

Pallowing 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?	FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020
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?	Harvesting 20. Does the FMAg/S identify acceptab	ole harvest practices on farms in the area or indi	ividual farms?
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?			ow and the earliest 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? 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?	22. Does the FMAg/S identify whether		sites covered by the Y
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? Y	23. Does the FMAg/S identify whether		pt on any site Y
25. Is the fish farm being managed and operated in accordance with the agreement or statement?	-		me, or cease to be, N/A
			statement?

Case No:	2022-0485			Date of visit:	: 11/10/2	2022		
O:: 11	E000E4	•						
Site No:	FS0851	J		Inspector				
Results Summary	Freq.			Da	te of Not	ification		
·		Database	Insp	Phone	Insp	Writing	Insp	2 nd
YRUK	1/3	03/11/2022	2			08/12/2022		
AGDQ	0/3	03/11/2022				08/12/2022		
IHNP	0/3	03/11/2022	2			08/12/2022		
IPNM	1/3	03/11/2022				08/12/2022		
ISAQ	0/3	03/11/2022				08/12/2022		
PMVP	0/3	03/11/2022				08/12/2022		
SALP	2/3	03/11/2022				08/12/2022		
VHSP	0/3	03/11/2022	2			08/12/2022		
IHNP	0/3	03/11/2022				08/12/2022		
PNST	3/3	03/11/2022				08/12/2022		
SPVP	3/3	03/11/2022				08/12/2022		
AMGD	2/3	03/11/2022				08/12/2022		
GPAT	3/3	03/11/2022				08/12/2022		
EPIT	1/3	03/11/2022				08/12/2022		
CGDH	3/3	03/11/2022				08/12/2022		
KPAT	1/3	03/11/2022				08/12/2022		
LPAT	3/3	03/11/2022				08/12/2022		
Report Summary								
Case Type	Date	Insp	2 nd Insp					
ECI, CNI, SLI, VMD	01/11/2022							
ECI, CNI, SLI, VMD - re								
DIAG	08/12/2022							
	Ī							

FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020
Case No: 2022-0485	Site No:	FS0851
Sea Lice Inspection (Seawater Sites Only)		
1. Has the site experienced sea lice problems	s in the previous 4 years?	N
	quivalent) fallowed synchronously on a single y	ear class basis?
3. Does the site have access to a range of lic	enced in-feed and bath sea lice medications (inc well as access to suitable biological and/or med	cluding deltamethrin,
and the section of the consequence of the consequen	ement agreement or statement relevant to the si	
5. Are sea lice count records available for ins	pection? (Legal SSI, CoGP Annex 6)	Y
	standard specified in the SSI and the CoGP? (L	egal SSI, CoGP Annex 6)
7. Are sea lice (<i>L. salmonis</i>) record levels be records are inspected? (CoGP Annex 6)	low the suggested criteria for treatment in the Co	oGP during the period that
8. Have average adult female sea lice (L. sal.	monis) numbers per fish been at a level of 3 or a	above (prior to w/b 10/6/19) or N
If yes, have these been reported to the Fish H	Health Inspectorate? If no, FHI see comment.	N/A
9. Is C. elongatus infestation at a level which	is considered to cause significant welfare proble	ems? (CoGP 4.3.81, 5.3.50) N
•	stered or other actions taken when <i>L. salmonis</i> alongatus is considered to have welfare implications.	
11. Has any other action been taken (where a	applicable)?	N/A
	is taken had a significant impact upon the lice le	
13. Are treatments, where conducted, carried	out in cooperation between participating farms?	Y
14. Is there a harvesting strategy for the site,	where fewer populations or part populations are	held without treatment for Y
15. Is there a site specific written lice manage	ement procedure with waypoints describing set a	actions to deal with recognised Y
16. Do the sea lice levels observed on stocks	reflect sea lice count data? If no please detail re	easons. Y
Containment Inspection		
	ge due to predators in the current or previous pr	
	the predation experienced on site? (Detail below	Y Y
Seal pro nets, bird nets, double panels or	n net bottom	
If other, detail below:		
3 Have escape incidents or events been exp	perienced on or in the vicinity of the site since the	e last FHI inspection?
If Yes proceed with questions 4 – 9. If No skip	•	e last i i i ilispection:
4. Have these been reported to Scottish Minis	•	
·	orthwith (where they exist)? (CoGP – 4.4.37, 5.4	17)
·	d local fisheries trusts forthwith (where they exis	
,	,	, (====================================
7. Were methods (if any) used to recover esc	apees? If yes give detail	
8. If all nots were deployed was this action of	greed with local wild fish interests and was perm	ission given by Scottish
Ministers? (Legal, CoGP – 4.4.38, 5.4.18)	grood with local with the resis and was perill	accion given by Coottisii
, -	imise the risk of further escapes? (Not covered in	n code but could
be considered under satisfactory measu		
	egards to containment? If no, please detail reason	on(s)





HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO FB0169 DATE OF VISIT 11/10/2022
SITE NO FS0851 SITE NAME Ardgaddan
CASE NO 20220485 INSPECTOR

Section 1: Summary

During a routine inspection, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009, several moribund and lethargic fish were observed across the site. The site had experienced recent increased mortality, in excess of 9% for the past 4 weeks, which had been attributed to amoebic gill disease and associated anaemia. Diagnostic samples were taken from three fish.

From the case description and information provided by the site and in conjunction with the clinical signs and gross pathology observed, the pathogens identified and histopathological observations from the fish sampled, it is most likely that complex gill disease is the significant factor responsible for the condition of the fish and the mortality being experienced on site.

Histopathology examination revealed focal necrotizing bacterial branchitis associated with complex gill issues and vascular disturbance and necrosis. Amoebic gill disease, epitheliocystis and costia-like parasites were also observed. Gill lesions also displayed features that could potentially be associated with environmental factors/water insult. Mild to moderate, multifocal to coalescence hepatic necrosis and necrotizing nephritis were also observed.

The bacterial species *Yersinia ruckeri* was isolated from one of the fish sampled. The level and purity of this primary fish pathogen would suggest it may be a source of morbidity in one fish but not in the case overall. Molecular genetic testing revealed positive results for infectious pancreatic necrosis virus, Salmonid alphavirus, salmon gill poxvirus and *Paranucleospora theridion*.

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

An inspection was conducted as part of routine surveillance, but also as a consequence of recent increased mortality. During the inspection several lethargic fish were observed across the site. Three of these were removed for closer examination and diagnostic sampling. All three fish had pale, zoned gills with evidence of haemorrhaging. The gills were necrotic in fish 1 and 2. The body of fish 3 appeared to be dark in colour. Internal observations included bloody ascites within the body cavity of fish 1, petechial haemorrhaging across the liver of fish 2 and 3, as well as the pyloric caeca of fish 3 and the body wall and swim bladder of fish 2 and 3. No food was present within the gut of R09

all three fish and yellow pseudo-faeces were observed within the gut of fish 1 and 2. Adhesions were observed within the body cavity of fish 3.

<u>Samples</u>

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

Fish number	Facility number	Species	Stage	Origin
1	13	Atlantic salmon	2.9 kg / 2021 S0	Applecross
2	6	Atlantic salmon	2.9 kg / 2021 S0	Migdale
3	11	Atlantic salmon	2.9 kg / 2021 S0	Migdale

Results

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

Yersinia ruckeri was isolated from the kidney of fish 3.

From the tests conducted, we do not have evidence of resistance to amoxycillin, oxytetracycline, sulphamethoxazole/trimethoprim or florfenicol.

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

Infectious pancreatic necrosis virus (IPNV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	-	-	-	-	Negative
F2	-	-	-	-	Negative
F3	15.94	36.18	35.21	36.71	POSITIVE

Salmonid alphavirus (SAV)

Fish Number	Endogenous control Cp value		Cp Values	Reported Result (PCR)	
F1	15.45	31.53	31.55	30.81	POSITIVE
F2	-	-	-	-	Negative
F3	15.94	33.99	33.36	33.17	POSITIVE

Salmon gill poxvirus (SGPV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	23.12	23.74	23.86	23.72	POSITIVE
F2	23.39	26.27	26.12	26.54	POSITIVE
F3	22.86	29.61	29.45	29.38	POSITIVE

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), 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	23.12	32.1	32.22	32.44	POSITIVE
F2	23.39	24.93	24.97	24.77	POSITIVE
F3	22.86	31.05	31.17	31.15	POSITIVE

The samples tested negative for *Neoparamoeba perurans* (AGD).

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from fish 1-3. The tissue samples were fixed in 10% neutral buffered formalin prior to examination by light microscopy. The following histopathological changes were observed:

<u>Gill:</u> Filament necrosis, haemorrhage, lamellar fusion and a compact layer of mixed Gram-negative bacteria surrounding the filament edge marked, focally extended, and cell debris among gill filaments (F1) and to a lesser extension in F2 and F3. Mild, multifocal hyperplasia and lamellar fusion and presence of few amoeboid cells resembling *Neoparamoeba perurans* observed in F1, F2 and several basophilic epithelial inclusions (likely epitheliocystis) F1. Epithelial lifting and several Costia-like also observed in F3.

<u>Skin & Muscle:</u> Few scattered individual fibre degeneration observed in the skeletal white muscle (F2).

Heart: F1 displayed minor cellular infiltration. F2 & F3 displayed some epicarditis.

Gut and pyloric caeca: Some cell sloughing (potentially associated with post-mortem artefacts) F2-F3

Pancreas: Within the normal range.

<u>Liver:</u> Hepatocellular necrosis, mild to multifocal to coalescence (F 2 & F3), some cuffing F3 and some foci hepatocellular vacuolation (macrovisicules) (F1- F3).

<u>Kidney:</u> Interstitial cell (haemopoietic) necrosis and presence of proteinaceous amorphous material Several renal tubules with hyaline droplets F2.

Spleen: Some foci of cellular necrosis (F3), minor cuffing (F1).

Signed:

Date: 8 December 2022

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/





AMENDED FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

Business NoFB0169Date of Visit11/10/2022Site NoFS0851Site NameArdgaddanCase No20220485Inspector

This report replaces the fish health report R25 issued on 3 November 2022, amending the section concerning mortality reporting to the Fish Health Inspectorate. The previous report should be discarded.

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.

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 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:

Fish Health Inspector

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Date: 22 November 2022





Fish 1 – Pale clumped gills with necrosis



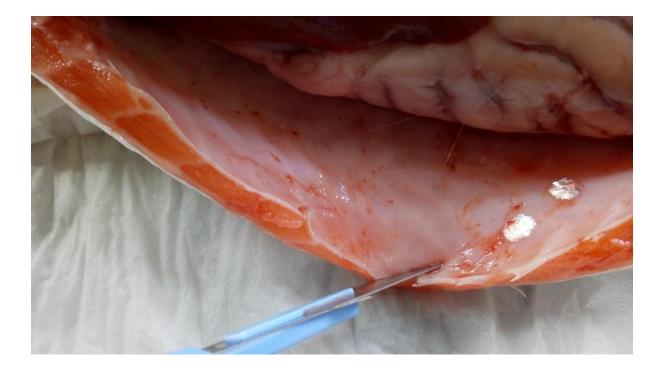
Fish 2 - Pale clumped gills with necrosis and haemorrhaging



Fish 3 - pale gills with some clumping and haemorrhage



Fish ${\bf 3}\,$ - Internal haemorrhaging over the swim bladder



Fish 2 - slight internal haemorrhaging over the body wall