FHI 059, Version 13		Issued by: FHI	Date of issue: 12/05/2020					
Case No: 2021-0383			Date of visit: 07/10/2021					
Time spent on site:	5 hours	Main Inspect	or:					
Site No: FS0708 Business No: FB0169	Site Name: Business Name:	Portree The Scottish Salmon Compar	у					
Case Types: 1 ECI	2 SLI 3 CNI	4 VMD 5 DIA	6					
Water Temp (°C): 12.7	Thermometer No:	T148	FHI 045 completed					
Observations:	Region: HI	Water type: S	CoGP MA M-26					
Dead/weak/abnormally behavin Clinical signs of disease observ Gross pathology observed? Diagnostic samples taken?	Dead/weak/abnormally behaving fish present?YIf yes, see additional information/clinical score sheet.Clinical signs of disease observed?YIf yes, see additional information/clinical score sheet.Gross pathology observed?YIf yes, see additional information/clinical score sheet.Diagnostic samples taken?Y							
UNI/REG only - if unable to carr	y out intended visit detai	il reason below:						

Additional Case Information:

Increased mortalities at site due to jellyfish, plankton and associated gill health issues.

30/08 - 05/09/21 = 18,687 (3.66%) - Site has been found to be positive for CMS. PGD and anaemia prevalent (wk 33). Gill issue exacerbated by jellyfish/plankton blooms.

06/09 - 12/09/2021 = 25,482 (5.17%) - Some cages have been harvested to reduce biomass on site and fish are scheduled to undergo a FW treatment in the coming weeks to try and improve gill health on the site.

13/09 - 19/09/2021 = 29,321 (6.28%) - The site has had a freshwater treatment and the fish seem to have reacted well. 20/09 - 26/09/2021 = 9,076 (2.15%)

Site currently harvesting live fish to Marybank in Stornoway, targeting worst affected cages.

Fish vet group visit 6/10/21 - this will be there 3rd visit to look at current issues on site. Reporting; Zooplankton, sea gooseberries, moon, crystal and lions mane jellyfish, cyanea sp and phialedla and other hydrozoa. Blooms have been observed onsite for many weeks starting in August and only clearing now.

SLICE on input every 8 weeks for first 10 months until June 2021. FW and mechanical treatments since then. Freshwater treatment at both sites just completed (three hour treatment for gill issues).

Normal practice to ensile waste on site. With increased morts currently have had to use Fergusons boat to remove some fish off whole to Mosspark or Dunfermline.

Fish input 1/9/2020 - Russell burn, Harris lochs. Fish moved off site to West Strome in Jan 2021. Risk assessment completed.

Dec 2020 - seal breached cage 3 at Portree. Replaced all nets with seal pro nets which have stopped seal issues experienced earlier in the cycle. Also seal blinds on nets. ADD on site but not used and would need to seek approval is required.

Lice figures peaked at 5.29 adult females 8/9/21, hydrolicer used and dropped to 0.95 for 17/9/21. Numbers had increased as they delayed lice treatments due to poor gill health over the summer. Last count 26/9/21 was 1.09 adult female. A FW treatment has been undertaken since then. Hydrolicer planned for next week.

Lumpfish losses 12.4% since input Feb-April 2021 from Ocean Matters. Attributed to general background losses.

Mortality levels have reduced significantly since freshwater treatment and only a few moribund fish observed. Four fish removed from pen 3 for diagnostic sampling as this pen had the highest mortality (~ 30%).

Paperwork by many, Site inspection by many, VMD sampling by many, diagnostic sampling by many under supervision of

FHI 059, Version 13			lssu	ed by: FHI			Date of issue	e: 12/05/2020
Case No:	2021-0383		Site No:	FS0708				
Date of Visit:		07/10/2021	1		Inspector(s):			I
Registration/Autho	risation Det	ails						_
1. Business/site deta	ails summary	checked by s	ite representa	ative?			Y	
2. Changes made to	details?						Y	
Site Details (includ	e cleaner fis	h for all secti	ions)					
Total No facilities		10	Facilities sto	cked	10	No facilitie	s inspected	10
Species	SAL	LUM						
	2020 S0	Feb-April 21						
Age group		input						
No Fish	446,553	90,980						
Mean Fish Wt	2.5 kg	90g						
Next Fallow Date (S	ite)	May 2022		Next Input Da	ate (Site)	Sept 2022		
Recent (last 4 wks)	disease prob	lems?		Y	Any escapes	(since last)	/isit)?	Y
If yes, detail:	Gill health, t	bloom, AGD, C	MS. Escape	reported Dec 2	2020 (reported	d)		
Movement Records	S							X
1. Movement record	s available fo	or inspection?					11/02/2020	Ť
2. Date of last inspec	clion. Joto and corr	onthy optorod?					11/03/2020	V
Are movement re	cords availab	le for dead fis	h and waste?	,				Y
5 Are records comp	lete and corr	ectly entered?						Y
6. Are health certific	ates for intro	ductions (outw	ith GB) availa	able?				N/A
Transport Records								
1. Are any movemen	nts carried ou	it by (or on bel	half) of the bu	isiness (not us	ing a STB)?			N
If yes, is there a syst	tem in place	for maintenan	ce of transpor	rtation records	?			
Mortality Records								
1. Mortality records a	available for i	inspection?						Y
2. How are mortalitie	s disposed o	of?			Ensiled - on	site		
If other detail:	Recent incre	ease morts ha	ve required F	ergusons uplif	t			
3. Mortality records of	complete and	correctly ente	ered?					Y
4. Recent mortality (last 4 wks):		27/9-2/10 =	5,233 (1.18%),	4/10-6/10 = 3	345 (0.08%)	(3 day figure)	- attributed
5. Evidence of recen	t increased/a	atypical mortal	ities?					Y
If yes, facility nos/no	mortality per	r facility/no sto	ck per facility	/reason:				
across whole site pe	aked at 29,3	21 fish or 6.28	% in week 37	7 - Gill issues a	and plankton			
6. Any other peaks in	n mortality du	iring period ch	ecked?					Y
7 Hove increased (Seal predati	on in Dec 202	0/Jan 2021	Not or EUI2				NI/A
If yes, detail action:	inexplained)	Inortanties bee	enreponed to					IN/A
8 Have 'mortality ev	ents' heen re	ported to FHI	2 If no enter	details on mor	ality events st	neet		Y
o. Have mortanty ev	chilo beenne	poncerto i m	. in no, enter (any events si	icct.		

Treatments and Medicines Rec	ords							
1. Recent treatments (see comment)?								
	FW -							
If yes, detail:	treatments							
If other, detail:								
2. Medicines records available fo	r inspection?		Y					
3. Are records complete and corr	ectly entered?		Y					
4. Are fish in a withdrawal period	?		Y					
5. If yes, what treatment(s)?	Trica	ine						
If other, detail:								
6. Are medicines stored appropria	ately?		Y					
Biosecurity Records								
1. Biosecurity records available for	or inspection?		Y					
2. Has the manner and frequency	y of mortality removal, recording a	and safe disposal been considered?	Y					
3. Has the manner and period in	which the APB will notify Scottish	Ministers or veterinary professional of any						
increased (unexplained) mortalit	y at the site been included?		Y					
4. Has the action that will be take	n in the event that the presence o	or suspicion of the presence of a listed disease	÷					
is detected been included and ho	w and when that will be notified t	to Scottish Ministers?	Y					
5. Has the health status of aquac	ulture animals being stocked on t	the farm site been covered (equal or higher	Y					
health status, certification if requi	red)?							
6. Have the husbandry and biose	curity measures implemented bet	tween each epidemiological unit to minimise	Y					
transmission of disease been cov	vered (movement of staff, visitors,	, equipment, live or dead fish etc.)?						
7. Is documentation available reg	arding the measures in place to n	maintain the physical containment of	Y					
aquaculture animals held on site?	?							
8. Have the biosecurity procedure	es been adequately implemented	on site?	Y					
If no, detail:								
Results of Surveillance								
1. Has any animal health surveilla	ance been carried out by, or on be	ehalf of, the business?	Y					
2. If yes, are results available for	inspection?		Y					
3. Any significant results?			Y					
f yes, detail (if not detailed under recent disease problems). abundent zooplankton in water, lice grazing								
Records chec	ked between: 11/3/	/20 - 6/10/21						

F۲	H 059, Version 13							lss	ued by: I	FHI			
	Case no:	2021-03	383	Site No	:	FS0708	;		Date of Samplin	visit/ g:	07/1	0/2021	07/*
	Priority samples:	VI		BA		PA		MG		HI			
	Time sampling starts/ends:	13:3	80:00	14:3	0:00	I	Inspecto	or:			VMD No	. [6
	Environmental conditions:	1	Indoors	2		3		4		5			
	Summary samples	HIST	Y	BA	Y	MG	Y	VI		PA		Total Sa	mples
A	dd Fish/Pools - click												
	Pool/Fish No	F1	F2	F3	F4	P1							
	Fish nos	1	2	3	4	1-4	5						
	Pool Group	P1	P1	P1	P1								
	Species	SAL	SAL	SAL	SAL	SAL	SAL						
	Average weight	3Kg	3Kg	3Kg	3Kg	3Kg	4Kg						
	Sex	N/A	N/A	N/A	N/A	N/A	N/A						
	Water Type	SW	SW	SW	SW	SW	SW						

Geocrab

Details

tock

Stock Origin Facility No Girlsta

3

3

Girlsta

3

Girlsta

3

Girlsta

3

Girlsta

14

10/2021 Additional Sample Information:													
F1-4 sampled by VXR under supervision of ALW													
	Es complete by ALW												
	i J Salli	pied by	ALVV										
5		Total To	ests ass	igned	5								
		i otai i i	0010 400	igned	•	I							
													•

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Case no:	2021-0383		Site No	D :	FS070	8	Me	ethod of	f killing:	Anaest	thetic	
Date of visit:	07/10/20	021	Inspec	tor(s):				s	heet Re	elevant:	Y	
S for strong preser	nce: M for medium presence: W	for weak pres	ence									
Fish Number		1	2	3	4							
Time sampled aft	er death (if > 45 minutes)	1hr	1hr	1hr	1hr							
External Signs												
Behaviour	Moribund		VV	VV	VV NA							
	Lethargic	IVI	IVI	IVI	IVI							
	Hanging vertical	_			-							
	Spiraling	_										
	Loss of equilibrium				_							
Body	Dark											
· · ·	Distended abdomen											
	Anorexic											1
	Scale Oedema											
Opercula	Shortened											
	Flared	_			_							
naemorrnaging	Ventrum											
	Base of fins											
	Elsewhere											1
Eyes	Exophthalmic											1
	Enophthalmic (sunken)											1
	Cataract											
	Haemorrhagic											
Gills	Pale	vv	IVI	IM	IVI							
	Zoned	_		W	W							
Lesions	Flank	M										
Leolono	Elsewhere				М							
Vent	Inflamed											
	Trailing faeces											
Lice Load	Estimate numbers											
					_							
Internal Signs	Class	_			_							
Ascites	Bloody	_	_		_							
Oedema	In tissues				_							
Heart	Pale/anaemic	_										
	Granulomas											
	Deformed											
Liver	Petechial haem											
	Gross haem	_										
	Tissue breakdown	_			_							
	Colour number(s)	1										
	Granulomas	-										1
	Lesions											1
Pyloric caeca	Petechial haem											1
	Tubules mauve											
	Lack of fat											
Spleen	Enlarged				_							
Gut	Granulomas No food present											
Gui	Yellow pseudo-faeces	-			_							
	External haem											1
	Internal haem											1
Body wall	Haemorrhaging				<u> </u>							1
Swim bladder	Haemorrhaging											
	Fluid filled											1
Kidney	Swollen											
	Grey											1
	liquefied											
General	Parasites present											1
	Anaemia											1
		-										

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Case no:	2021-0383

Е

Date of visit:

07/10/2021

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

Fish Number							
Time sampled afte	r 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						
0t	Granulomas						
Gut	No food present						
	Tellow pseudo-faeces						
Deduver	Internal naem						
Body Wall	Haemorrnaging						
Swim bladder	Haemorrnaging						
Kidnes	Fiuld filled						
rianey	Swollen						
	Grey						
	Granular						
Conorol	Liquefied						
General							
	Anaemia						

Additional comments:

Slightly poor gills but no internal signs except for vaccination related adhesions.

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Issued by: FHI

Case Number:	2021-0383	Site No:	FS0708		Insp:	
Date of Visit	07/10/2021	No of m	ovements/s	supp./dest.		Score
Live fish movements		0	1-5	6-10	>10	
Movements on (from out	Frequency of movements on from equivalent MS	0	5	10	14	0
with GB) of susceptible species	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26	0
	Number of suppliers	0	5	10	14	0
Movements off	Frequency of movements off	0	3	6	10	10
	Number of destinations	0	3	6	10	3
Exposure via water	Site contacts	s 0	1-5	6-10		
Water contacts with other farms (holding species	Farm is protected (secure water supply through disinfection or borehole)	0				0
susceptible to same diseases)	Farm is on-line or in a coastal zone with category I farms upstream or within 1 tidal excursion	1	2	4		2
	Farm is on-line or in a coastal zone with category III farms upstream or within 1 tidal excursion	1	3	6		0
	Farm is on-line or in a coastal zone with category V farms upstream or within 1 tidal excursion	1	4	8		0
Management practices		None	Secure	Unsecure		
Water contacts with processors	Any processing plant discharging into adjacent waters	; 0	1	2		0
On farm processing within	No on farm processing	0	1			
the rules of the directive	Processing own fish (re-cycling risk)	1				0
	Processing fish from MS of equivalent status	2				0
	Processing fish from zone or compartment of equivalent status	4				0
	Processing fish from Category III farm	8				0
	Processing fish from Category ∨ farm	10				0
Disposal of fish and fish by-	Site's own waste only processed.	0				0
products	Common processes with other farms	3				0
	Collection point for waste from other farms	5				5
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0
	Feeding unpasteurised feed	5				0
Biosecurity	Number of sites	s 1	2 or 3	≥ 4		
Contacts with other sites	Sites operating from single shorebase	0	1	2		1
	Sites sharing staff and equipment	0	1	2		1
Disinfection of equipment	Yes	0	1			0
between sites, use of footbaths etc	No	1				1
CoGP/Regulator						
Practices in accordance	Yes	0				0
code of practice	No	3				0
Platform access to cages	Yes	0	1			0
	No	2				0
				Total		23
				Rank		MEDIUM

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Case No: 2021-03	83	Site No	E FS0708	
Sea Lice Inspection (Seawater	Sites Only)			
1. Has the site experienced sea I	ice problems in the previous 4	years?		Ν
2. Is the CoGP Farm Management	nt Area (or equivalent) fallowe	ed synchronously on a singl	e year class basis?	Y
3. Does the site have access to a azamethiphos and emamectin be can these be deployed in a reaso	range of licenced in-feed and nzoate) as well as access to nable period of time?	l bath sea lice medications suitable biological and/or m	(including deltamethrin, lechanical control measures, ar	nd Y
4. Is there a signed documented Management Area (or equivalent	farm management agreement)?	or statement relevant to the	e site and CoGP Farm	Y
5. Are sea lice count records ava	ilable for inspection? (Legal S	SI, CoGP Annex 6)		Y
6. Do records adequately reflect	the required standard specified	d in the SSI and the CoGP?	(Legal SSI, CoGP Annex 6)	Y
7. Are sea lice (<i>L. salmonis</i>) records are inspected? (CoGP A	rd levels below the suggested nnex 6)	l criteria for treatment in the	CoGP during the period that	Ν
8. Have average adult female sea 2 or above (from w/b 10/6/19) du	a lice (<i>L. salmonis</i>) numbers p ring the period that records ar	er fish been at a level of 3 e inspected?	or above (prior to w/b 10/6/19) o	pr Y
If yes, have these been reported	to the Fish Health Inspectorat	e? If no, FHI see comment.		Y
9. Is <i>C. elongatus</i> infestation at a	level which is considered to o	ause significant welfare pro	oblems? (CoGP 4.3.81, 5.3.50)	Ν
10. Have therapeutic treatments suggested criteria for treatment of	been administered or other ac r where <i>C. elongatus</i> is consi	tions taken when <i>L. salmor</i> dered to have welfare impli	is levels have exceeded the cations? (CoGP 4.3.82, 5.3.51)	Y
11. Has any other action been ta	ken (where applicable)?			Υ
12. Have therapeutic treatments	or the actions taken had a sign	nificant impact upon the lice	e levels recorded?	Υ
13. Are treatments, where condu	cted, carried out in cooperatio	n between participating farm	ns?	Y
14. Is there a harvesting strategy sea lice?	for the site, where fewer popu	lations or part populations	are held without treatment for	Y
15. Is there a site specific written scenarios during the escalation of	lice management procedure v f a sea lice infestation?	vith waypoints describing se	et actions to deal with recognise	ed Y
16. Do the sea lice levels observe	ed on stocks reflect sea lice co	ount data? If no please deta	il reasons.	Y
Containment Inspection				
1. Has the site experienced equir	oment damage due to predato	rs in the current or previous	production cycles?	Y
2. Are measures in place to mitig	ate against the predation expe	erienced on site? (Detail bel	low)	Y
top nets, seal pro Seal blin	nds			
nets,				
If other, detail below:				
3. Have escape incidents or eve	nts been experienced on or in	the vicinity of the site since	the last FHI inspection?	Y
If Yes proceed with questions 4 -	9. If No skip to question 10	,,		
4. Have these been reported to S	cottish Ministers?			Y
5. Have these been reported to lo	cal DSFB forthwith (where the	ey exist)? (CoGP - 4.4.37,	5.4.17)	Υ
6. Have these been reported to the	ne SSPO and local fisheries tr	usts forthwith (where they e	xist)? (CoGP – 4.4.37, 5.4.17)	Y
7. Were methods (if any) used to	recover escapees? If yes give	e detail		Ν
8. If gill nets were deployed was Ministers? (Legal, CoGP – 4.4.38	his action agreed with local w 8, 5.4.18)	ild fish interests and was pe	ermission given by Scottish	N/A
9. What action was taken to prev	ent and minimise the risk of fu	rther escapes? (Not covere	d in code but could	
be considered under satisfact	ory measures of the Act)	all nets changed for s	seal pro	
10. Is the site inspected as satisf	actory with regards to contain	ment? If no, please detail re	ason(s)	Y

FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020
Case No: 2021-0383	Site No: FS0708	
Date of Visit: 07/10/2021	Inspector:	
Point of Compliance 1. Is the farm under inspection located w If N, no further questions require complet	ithin a farm management area? tion.	Υ
Points of Compliance for Both Farm M 2. Has a current farm management agree 3. Is the current FMAg/S available for ins 4. Does the FMAg/S identify the relevant 5. Does the FMAg/S identify the fish farm 6. Does the FMAg/S identify the date of o 7. Does the FMAg/S identify the date of r	Ianagement Agreements and Stateme ement or statement (FMAg/S) been prep pection? farm management area? n site(s) to which it applies? commencement of the agreement or sta review?	ents bared? Y Y tement? Y Y
Arrangements for Fish Health Manage 8. Does the FMAg/S identify the minimum farm?	ment n health standards for the stocks to be i	ntroduced to the area or Y
9. Does the FMAg/S identify the vaccinat 10. Does the FMAg/S identify the species 11. Does the FMAg/S identify the maximu individual farm?	ion requirements for stocks held in the a s of fish which may be stocked into the a um stocking density of any pen on any f	area or farm? Y area or farm? Y arm in the area or the Y
12. Does the FMAg/S identify the arrange fish farm in the area or the individual far	ements for the storage and disposal of a m?	ny dead fish from any Y
Arrangements for The Management of 13. Does the FMAg/S identify arrangeme	f Sea Lice ents for the sharing of data on sea lice n	umbers and treatments?
14. Does the FMAg/S identify the availab of statement?	ility and the use of medicines on farms o	covered by the agreement Y
15. Does the FMAg/S identify any require lice on farms in the area or individual farm	ements for the sensitivity testing of availants?	able treatments for sea Y
16. Does the FMAg/S identify the circums used on farms in the area or individual fa	stances under which biological controls arms?	and cleaner fish are to be Y
17. Does the FMAg/S identify the arrange	ements for synchronous treatments on f	arms within the area? Y
Live Fish Movements 18. Does the FMAg/S identify the circums area or farm?	stances when live fish may be introduce	d or removed from the Y
19. Does the FMAg/S identify the arrange or individual farms?	ements for the movement of live fish on	and off sites in the area Y

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Harvesting 20. Does the FMAg/S identify acceptable	harvest practices on farms in the area or individual fa	arms? Y
Fallowing		
21. Does the FMAg/S identify the dates b date when a farm or area may be restock	by which the area or individual farm will be fallow and t ked?	the earliest Y
22. Does the FMAg/S identify whether on agreement or statement?	e or more year classes may be stocked onto sites co	vered by the Y
23. Does the FMAg/S identify whether brocovered by the agreement or statement?	oodstock or potential broodstock are to be kept on an	y site Y
Point of Compliance for Farm Manage 24. Does the farm management agreement parties to the agreement?	ment Agreements Only ent include arrangements for persons to become, or o	ease to be, Y
Management and operation 25. Is the fish farm being managed and o 26. What is the version no/date of issue o	operated in accordance with the agreement or statement of the FMAg/S?	ent? Y

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Case No:	2021-0383		Date of visit: 07/10/2021					
Site No:	FS0708]		Inspector:		I		
Results Summary	Freq.			Da	te of Notificat	tion		
		Database	Insp	Phone	Insp	Writing	Insp	2 nd Insp
IHNP	0/1	13/10/2021		13/10/2021		29/10/2021		
IPNM	0/1	13/10/2021		13/10/2021		29/10/2021		
ISAP	0/1	13/10/2021		13/10/2021		29/10/2021		
SALP	1/1	13/10/2021		13/10/2021		29/10/2021		
VHSP	0/1	13/10/2021		13/10/2021		29/10/2021		
AGDQ	4/4	13/10/2021		13/10/2021		29/10/2021		
PNST	4/4	13/10/2021		13/10/2021		29/10/2021		
SPVP	3/4	13/10/2021		13/10/2021		29/10/2021		
PMVP	1/1	14/10/2021		15/10/2021		29/10/2021		
CMPS	3/4	18/10/2021		18/10/2021		29/10/2021		
SPVH	4/4	18/10/2021		18/10/2021		29/10/2021		
HPAT	3/4	18/10/2021		18/10/2021		29/10/2021		
GPAT	4/4	18/10/2021		18/10/2021		29/10/2021		
EPIT	2/4	18/10/2021		18/10/2021		29/10/2021		
CGDH	4/4	18/10/2021		18/10/2021		29/10/2021		
LPAT	2/4	18/10/2021		18/10/2021		29/10/2021		
AERO	4/4	25/10/2021		25/10/2021		29/10/2021		
VSPE	3/4	25/10/2021		25/10/2021		29/10/2021		
HAFC	1/4	25/10/2021		25/10/2021		29/10/2021		
UBAS	1/4	25/10/2021		25/10/2021		29/10/2021		

Report Summary			
Case Type	Date	Insp	2 nd Insp
ECI/CNI/SLI/VMD	13/10/2021		
DIA	29/10/2021		





FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

 BUSINESS
 No
 FB0169

 SITE NO
 FS0708

 CASE NO
 20210383

DATE OF VISIT07/10/2021SITE NAMEPortreeINSPECTORInspector

Section 1: Summary

The site was visited following continued reports of elevated mortality levels. During the inspection, a number of lethargic fish were observed and four were removed for further examination and subsequent diagnostic sampling.

Histopathology examination revealed pathology consistent with cardiomyopathy syndrome (CMS) and salmon gill poxvirus. This was confirmed as a sample tested positive for piscine myocarditis virus (PMCV) by qPCR, while three fish were positive for salmon gill poxvirus. Mild hepatic necrosis and very mild gill pathology was also observed.

A sample tested positive for the presence of salmonid alphavirus (SAV).

Due to gill health issues observed on site, samples were also screened for *Paranucleospora theridion* (syn, *Desmozoon lepeophtherii*) and *Neoparamoeba perurans* (the causative agent of amoebic gill disease (AGD)). Samples tested positive for both pathogens.

Hafnia alvei was identified as pure heavy growth on the plate taken from kidney material of fish 3. This bacterium is known as a fish pathogen and would have been significant to the health of this individual fish.

Aeromonas sp. and Vibrio sp. were isolated, however the level of purity and growth would not suggest these bacteria are implicated as primary pathogens.

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

Section 2: Case Detail

Observations

The site was inspected following continued reports of elevated mortality levels and to carry out a routine inspection. Increased mortalities had been attributed to gill health, jellyfish/plankton blooms, AGD and CMS.

Mortality levels have reduced significantly since freshwater treatments were completed on site and only a few moribund fish were observed during the inspection. Four fish were removed from pen 3 for diagnostic sampling as this pen had the highest overall mortality.

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All fish sampled were moribund and lethargic. All gills were slightly pale, and also mildly necrotic in fish 3 and 4. A lesion was present on the flank of fish 1 and there were abrasions on the belly of fish 4.

Internally, there were no clinical signs. Adhesions were present in all fish.

Samples

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

Fish number	Pool number	Facility number	Species	Stage	Origin
1, 2, 3, 4	1	3	Atlantic salmon	2020 S0 3.5 kg	Girlsta Hatchery (FS0504)

<u>Results</u>

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

The following bacteria were isolated:

- Hafnia alvei
 - Fish 3 (Kidney)
- Aeromonas sp.
 - Fish 1-4 (Gill)
- Vibrio sp.
 - Fish 1 (Lesion)
 - Fish 2 and 4 (Kidney)
- Non fish pathogen (environmental)

 Fish 1 (Lesion)

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

Salmonid alphavirus (SAV)

Pool Number	Endogenous control Cp value		Reported Result (PCR)		
P1	17.95	29.30	29.24	29.59	POSITIVE

Piscine myocarditis virus (PMCV)

Pool Number	Endogenous control Cp value		Reported Result (PCR)		
P1	16.66	16.21	16.33	16.19	POSITIVE

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Salmon gill poxvirus (SGPV)

Fish Number	Endogenous control Cp value		Reported Result (PCR)		
F1	18.83	34.12	33.77	33.75	POSITIVE
F2					NEGATIVE
F3	18.61	31.19	30.84	30.85	POSITIVE
F4	17.9	20.65	20.7	20.63	POSITIVE

Salmonid alphavirus (SAV) was sequenced and matched 100% at amino acid level to previous type 5 isolates.

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), infectious salmon anaemia virus (ISAV) 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	18.83	32.3	34.24	33.66	POSITIVE
F2	18.07	35.29	35.69	35.02	POSITIVE
F3	18.61	32.00	32.07	32.39	POSITIVE
F4	17.9	34.12	33.13	33.16	POSITIVE

Paranucleospora theridion

Fish Number	Endogenous control Cp value		Cp Values	Reported Result (PCR)	
F1	18.83	26.77	26.85	26.85	POSITIVE
F2	18.07	27.78	27.84	27.69	POSITIVE
F3	18.61	28.05	28.22	28.5	POSITIVE
F4	17.9	22.54	22.69	22.51	POSITIVE

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

Histopathological examination revealed the following:

Gill: Few scattered fusion of lamellae, some individual lamellae displayed epithelial thickness (F1). One aneurysmal dilation/telangiectasia noted in all individuals (F1). F2 and F4 exhibited some bluntness of the gill filament and some vascular disturbance of lamellae. Several of basophilic epithelial inclusions (likely epitheliocystis) observed in F2 and F3. F4 also exhibited many apoptotic cells and some shedding off.

Skin & Muscle: Within the normal range.

Heart: F1 displayed marked myocardial mononuclear cell infiltration (endocarditis) and marked myocardial degeneration and necrosis in the atrium chamber. This chamber also exhibited a massive blood clot. The spongy layer of ventricle chamber also displayed the same feature but slightly less severe. Mild pericarditis also noted. F2 displayed multifocal cell infiltration in both chambers. F4 exhibited endocarditis but more moderate. F3: no atrium and bulbus in section.

Gut and pyloric caeca: One small focal area of inflammatory cell infiltration observed in the adipose tissue (F2). Some fibrous adhesions (likely associated with vaccine administration) (F1, F2, F4).

Pancreas: Within normal range.

Liver: Mild multifocal hepatic necrosis (F1), mild diffuse hepatocellular vacuolation (macrovisicules) (F4).

Kidney: Within normal range.

Spleen: Within normal range.

Signed:

Fish Health Inspector

Date: 29/10/2021

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Marine Scotland website at <u>https://www.gov.scot/publications/fish-health-inspectorate-service-charter/</u>

marine scotland science



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DATE OF VISIT07/10/2021SITE NAMEPortreeINSPECTORImage: Constraint of the second seco

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, in accordance with 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.

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.



Date: 13/10/2021

Fish Health Inspector

Signed:

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 3



Fish 4