FHI 059, Version 13	Is	sued by: FHI	Date of issue: 12/05/2020
Case No: 2024-0092			Date of visit: 17/04/2024
Time spent on site:	hours	Main Inspec	etor:
Site No: FS0299	Site Name:	Dunstaffnage	
Business No: FB0125	Business Name:	Scottish Sea Farms Ltd	
Case Types: 1 ECI	2 CNI 3 SLI	4 DIA 5	6
Water Temp (°C): 8.4	Thermometer No:	T155	FHI 045 completed
Observations:	Region: ST	Water type: S	CoGP MA M-36
Dead/weak/abnormally behaving	fish present?	Y If yes, see additional info	ormation/clinical score sheet.
Clinical signs of disease observe	d?		ormation/clinical score sheet.
Gross pathology observed? Diagnostic samples taken?		Y If yes, see additional info	ormation/clinical score sheet.
Diagnostic samples taken?		Ĭ.	
UNI/REG only - if unable to carry	out intended visit detail r	eason below:	

Additional Case Information:

Information taken from mort spreadsheet. From 10/10/2022 to 20/02/2023 site reported mortality events above threshold attributed to gill health (CGD & AGD). Tarp peroxide treatment in wk 43 2022, FHI visited in wk 45 2022 and DIA taken (SRS and complex gill found). FW treatment started wk 47 2022. Destocking through harvest commenced wk 50 2022. Gill health conditions continued and secondary bacterial infection identified wk 4 2023. FW treatment in February 2023 seemed to improve conditions and mortality events not reported until July 2023 when site harvested to fallow. Highest mortality reported wk 12.20%.

Stocking of wild caught wrasse planned for June 2024.

WRS mortality - peak 0.61% wk 8 2023, week 19 2023 100% mortality in pen 7 (616 fish) (7.45% for site for week); wk 23 2023 23% from pen 9 (5.05% for site for week); wk 24 2023 pen 9 63.99% (215 fish) (16.875% for site for week); wk 25 2023 pen 8 71.63% (101 fish) (23.74% for site for week); wk 26 2023 pen 1, 8 and 9 100% mortality (2769 fish, 40 fish and 40 fish respectively). Last reported wrasse mortality week 45, 2023 (0.09%, 25 fish for site for week). Currently no wrasse on site.

VMD samples were due at the site but fish were unable to be caught using a box net. Sample visit to be rearranged for later in the year.

Most recent lice count; 0.04 average lep juvs, 0.11 mobile lep, 0.03 Caligus, 0.03 average female leps.

Inspection and paperwork by observed by Diagnostic sampling of fish 1,2 and 4 by supervised by

SLICE treatment carried out from 11/3/24-17/3/24, and currently undergoing a SLICE treatment which started 15/4/24. Treatments not carried out in syncrony but FMS details that they can be where appropriate and under vet guidence.

Health reports 9/4/24 0/10 AGD PCR

Health report; 17/1/23 SRS associated lesion, AGD. Site harvest 14/7/23 to South Shian and fallowed. Starting 3/9/23 fish were then moved on from Bloody Bay, fish were fresh water treated during transport. Some of these fish were harvested in Oct/Nov 2023 and some were moved back to Bloody Bay in Dec 2023. Fish health report 21/11/23 moving fish to Bloody Bay and harvesting - AGD 11/11, PRV 0/5, PMCV 2/5, Furunculosis 0/5, Pasturella 0/5, SRS 0/5. Gill issues and slight heart pathology. Site was then fallowed 6/12/23 until 1/2/24 when stocked with smolts from Barcaldine and Girlsta.

On inspection about 4 to 8 moribund fish were observed in each pen, many with lesion. 4 moribund fish were removed for sampling

Updated FMS received 12/6/24. No further outstanding issues.

Date of issue: 12/05/2020 FHI 059, Version 13 Issued by: FHI 2024-0092 FS0299 Case No: Site No: Date of Visit: 17/04/2024 Registration/Authorisation Details 1. Business/site details summary checked by site representative? 2. Changes made to details? Site Details (include cleaner fish for all sections) Total No facilities Facilities stocked Species SAL Age group 2024 Q1 No Fish 844,079 Mean Fish Wt 344g Next Fallow Date (Site) May 2025 Next Input D Recent (last 4 wks) disease problems? If yes, detail: **Movement Records** 1. Movement records available for inspection? 2. Date of last inspection: 3. Are records complete and correctly entered? 4. Are movement records available for dead fish and waste? 5. Are records complete and correctly entered? 6. Are health certificates for introductions (outwith GB) available? **Transport Records** 1. Are any movements carried out by (or on behalf) of the business (not using a STB)? If yes, is there a system in place for maintenance of transportation records? **Mortality Records** 1. Mortality records available for inspection? 2. How are mortalities disposed of? If other detail: 3. Mortality records complete and correctly entered? SAL - wk 12 0.03% 220 fis 4. Recent mortality (last 4 wks): wk15 0.04% 373 fish; mort 5. Evidence of recent increased/atypical mortalities? If yes, facility nos/no mortality per facility/no stock per facility/reason:

6. Any other peaks in mortality during period checked?

If yes, detail:

7. Have increased (unexplained) mortalities been reported to vet or FHI?

Nov/Dec 22 - FHI visited due to raised m If yes, detail action: Diagnostic taken. FW treatments and de

As detailed in Q7

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:

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)?

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* (une 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 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, c
- 6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission (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 h
- 8. Have the biosecurity procedures been adequately implemented on site?

If no, detail:

Results of Surveillance

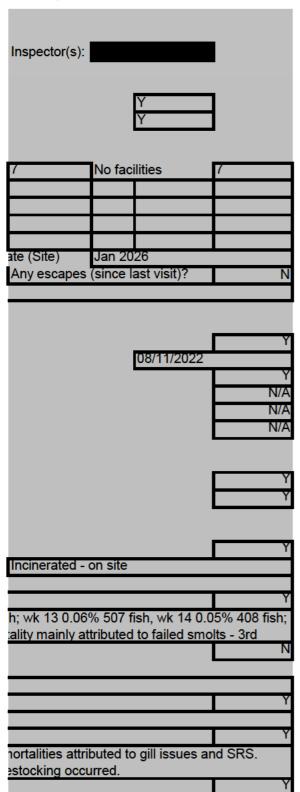
- 1. Has any animal health surveillance been carried out by, or on behalf of, the business?
- 2. If yes, are results available for inspection?
- 3. Any significant results?

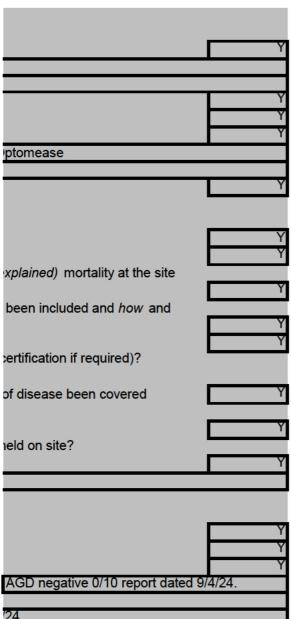
If yes, detail (if not detailed under recent disease problems).

Records checked between: 8/11/22-17	F	Records	chec	ked	be	tween:	8	ľ	ľ	1	2	2	2-	1	7	/	4
-------------------------------------	---	---------	------	-----	----	--------	---	---	---	---	---	---	----	---	---	---	---

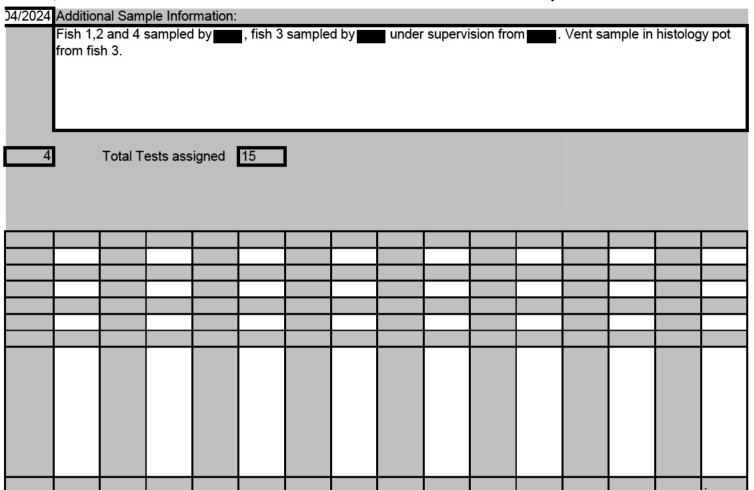
SLICE and Optomease

SLICE and C





Г	11 059, Version 13							iss	ued by: FHI	ı			
	Case no:	2024-00	092	Site No:		FS0299			Date of visi Sampling:	it/	17/0	04/2024	17/0
	Priority samples:	VI		ВА		PA		MG		НІ			
	Time sampling starts/ends:		00:00		0:00		Inspecto	or:			VMD No). [0
	Environmental conditions:	1	Indoors	2		3		4	_	5			
	Summary samples	HIST	Y	ВА	Y	MG	Y	VI	Y	РА		Total Sa	mples
Δ	dd Fish/Pools - click												
^	uu i isii/i oois - ciick												
	Pool/Fish No	F1	F2	F3	F4								
	Fish nos	1	2	3	4								
	Pool Group	P1	P2	P3	P4								
	Species	SAL	SAL	SAL	SAL								
	Average weight	300g	300g	300g	300g								
	Sex												
	Water Type	SW	SW	SW	SW								
Details													
eta		亞	<u>n</u>	亞	<u>r</u>								
		Girlsta	Girlsta	Girlsta	Girlsta								
Stock	Stock Origin			<u></u>									
S	Facility No	7	7	7	7								



FHI 059, Version 13 Issued by: FHI Date of issue: 12/05/2020

Case no:	2024-0092		Site No):	FS029	9	Me	ethod of	killing:	Percus	sive
Date of visit:	17/04/2024]	Inspec	tor(s):				s	heet Re	elevant:	Υ
S for strong presen	ce: M for medium presence: W for v	weak pres	sence								
Fish Number		1	2	3	4						
Time sampled afte External Signs	er death (if > 45 minutes)										
Behaviour	Moribund	S	S	S	S						
Bonavioui	Lethargic	S	Š	S	S						
	Hanging vertical										
	Spiralling										
	Flashing										
	Loss of equilibrium										
Body	Dark	S	S	S	S						
	Distended abdomen										
	Anorexic										
Oneroule	Scale Oedema	W									
Opercula	Shortened Flared	VV									
Haemorrhaging	Throat										
	Ventrum										
	Base of fins										
	Elsewhere										
Eyes	Exophthalmic	S									
	Enophthalmic (sunken)										
	Cataract										
2'''	Haemorrhagic										
Gills	Pale Zoned										
	Necrotic										
Lesions	Flank		S								
Legions	Elsewhere										
Vent	Inflamed			S							
	Trailing faeces										
Lice Load	Estimate numbers	0	0	0	0						
Internal Signs	Class										
Ascites	Clear Bloody										
Oedema	In tissues										
Heart	Pale/anaemic										
	Granulomas										
	Deformed										
Liver	Petechial haem										
	Gross haem										
	Tissue breakdown										
	Enlarged	5	5	5	5						
	Colour number(s) Granulomas	3	3	3	3						
	Lesions										
Pyloric caeca	Petechial haem										
	Tubules mauve										
	Lack of fat										
Spleen	Enlarged			M	M						
	Granulomas			6	6						
Gut	No food present	e	S	S	S						
	Yellow pseudo-faeces	S									
	External haem Internal haem		W								
Body wall	Haemorrhaging		-								
Swim bladder	Haemorrhaging										
	Fluid filled										
Kidney	Swollen										
	Grey										
	Granular										
	Liquefied										
General	Parasites present										
	Anaemia										

Case no: 2024-0092

Date of visit: 17/04/2024

S for strong presence. M for medium presence: W for v Finish Number Finish Numbe								
Time sampled after death (f) - 46 minutes) Echteral Signa Eehaviour Monbund Luthurgic Hanging vertical Spiralling Flashing Loss of equilibrium Body Distended abdomen Anoracic Seale Odema Appercula Shortened Flared Haemorrhaging Throat Base of fins Estewhere Eyes Exophthalmic (sunken) Condition Anoracic Seale Odema Base of fins Elsewhere Lesions Flank Lesions Flank Lesions Elsewhere Vent Inflamed Tarilling faces Lice Load Estimate numbers Deformed Coranulomas Deformed Lice Load Cranulomas Deformed Lice Load Enlarged Gross haem Tinsue breakdown Enlarged Colour number(s) Colour number(s) External Signa Body Removed Lack of fat Enlarged Colour number(s) External Signa Body Wall Removerhaging Granulomas Deformed Lice Load Enlarged Colour number(s) External Signa Body Wall Removerhaging External Signa Body Wall Removerhaging Flain in tissues Enlarged Colour number(s) External Signa Body Wall Removerhaging Flain internal haem Internal haem Fluid filled Coranular Fluid filled Fluid filled Fluid filled Fluid filled Fluid filled Coranular Fluid filled Fluid filled Fluid filled Coranular Fluid filled Fluid filled Fluid filled Fluid filled Fluid filled Coranular Fluid filled Coranular Liquefied Coneaular Liquefi		ce: M for medium presence: W for	гм					
External Signa Behaviour Moribund								
Behaviour Moribund		er death (if > 45 minutes)						
Lethargic								
Spiraling Spir	Behaviour							
Spiralling								
Flashing								
Loss of equilibrium								
Body		Flashing						
Distended abdomen								
Anorexic Scale Octions Sele Octions Shortened	Body							
Scale Cedema								
Opercula Shortened Flared								
Flared								
Haemorrhaging Throat	Opercula							
Ventrum								
Sase of fins	Haemorrhaging							
Elsewhere								
Eyes								
Enophthalmic (sunken)								
Cataract	Lyes							
Haemorrhagic								
Gills								
Zoned	0:11-							
Lesions	GIIIS							
Lesions								
Elsewhere								
Vent Inflamed Inflamed <td< td=""><td>Lesions</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Lesions							
Trailing faeces								
Lice Load	Vent							
Internal Signs								
Ascites Clear	Lice Load	Estimate numbers						
Ascites Clear								
Bloody								
Defema	Ascites							
Heart								
Granulomas								
Deformed	Heart							
Liver Petechial haem								
Gross haem								
Tissue breakdown	Liver							
Enlarged								
Colour number(s)								
Granulomas		Enlarged						
Lesions								
Pyloric caeca Petechial haem								
Tubules mauve Lack of fat Spleen Enlarged Granulomas Gut No food present Yellow pseudo-faeces External haem Internal haem Internal haem Swim bladder Fluid filled Kidney Granular Liquefied General Farasites present								
Lack of fat Image: Company of the company	Pyloric caeca							
Spleen Enlarged Image: Continuous of the cont								
Granulomas Image: Control of the control								
Gut No food present Image: Control of the control of t	Spleen							
Yellow pseudo-faeces								
External haem	Gut							
Internal haem								
Body wall Haemorrhaging Image: Control of the control								
Swim bladder Haemorrhaging Image: Control of the contr								
Fluid filled Image: Control of the contro								
Kidney Swollen Swollen <td< td=""><td>Swim bladder</td><td>Haemorrhaging</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Swim bladder	Haemorrhaging						
Grey Image: Control of the								
Granular	Kidney							
Liquefied Seneral Parasites present Seneral Se								
General Parasites present								
Anaemia Anaemia	General							
		Anaemia						

FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020
Additional comments:		
	of clear ascites in body cavity, adhesions and	d melanisation in body cavity -

FHI 059, Version 13		Issued by: FHI			Date o	f issue	: 12/05/2020
Case Number:	2024-0092		Site No:	FS0299		Insp:	
Date of Visit	17/04/2024		No of m	ovements/s	supp./dest.		Score
Live fish movements			0	1-5	6-10	>10	
Movements on (from out	Frequency of m	novements on from equivalent MS	0	5	10	14	0
with GB) of susceptible species		novements on from equivalent zone or	0	9	18	26	
·	Number of sup	ncluding third country pliers	0			14	
Movements off	Frequency of m	novements off	<u> </u>	3	6	10	10
	Number of desi		0		6	10	3
Exposure via water		Site contacts	0	1-5	6-10		
Water contacts with other farms (holding species	disinfection or l	,	0				
susceptible to same diseases)	farms upstream	or in a coastal zone with category I n or within 1 tidal excursion	1	2	4		2
	farms upstream	or in a coastal zone with category III n or within 1 tidal excursion	1	3	6		
		or in a coastal zone with category V n 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		1
On farm processing within the rules of the directive	No on farm pro	•	0				0
	Processing own	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	te only processed.	0	Ī			0
products	Common proce	esses with other farms	3				
	Collection point	t for waste from other farms	5				
Use of unpasteurised feeds	No feeding of u	inpasteurised feed	0	Ī			0
	Feeding unpas	teurised feed	5				
Biosecurity		Number of sites	1	2 or 3	≥ 4		
Contacts with other sites	Sites operating	from single shorebase	0	1	2		0
	Sites sharing st	taff and equipment	0	1	2		0
Disinfection of equipment between sites, use of	Yes		0				0
footbaths etc	No		1				
CoGP/Regulator							
Practices in accordance with regulator or industry	Yes		0				0
code of practice	No		3				
Platform access to cages	Yes		0	1			0
	No		2				
					Total		16
					Rank		MEDIUM

Case 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 and emame these be deployed in a reasonable period of time?
- 4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equiv
- 5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6)
- 6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6)
- 7. Are sea lice (L. salmonis) record levels below the suggested criteria for treatment in the CoGP during the period that records are inspecte
- 8. Have average adult female sea lice (L. salmonis) numbers per fish been at a level of 3 or above (prior to w/b 10/6/19) or 2 or above (from

If yes, have these been reported to the Fish Health Inspectorate? If no, FHI see comment.

- 9. Is C. elongatus infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50)
- 10. Have therapeutic treatments been administered or other actions taken when L. salmonis levels have exceeded the suggested criteria for
- 11. Has any other action been taken (where applicable)?
- 12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded?
- 13. Are treatments, where conducted, carried out in cooperation between participating farms?
- 14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for sea lice?
- 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during
- 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?
- Are measures in place to mitigate against the predation experienced on site? (Detail below)

Top nets, seal pro nets, nets are tensioned.

If other, detail below:

- 3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection?
- If Yes proceed with questions 4 9. If No skip to question 10
- 4. Have these been reported to Scottish Ministers?
- 5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP 4.4.37, 5.4.17)
- 6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP 4.4.37, 5.4.17)
- 7. Were methods (if any) used to recover escapees? If yes give detail
- 8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, CoG
- 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)

FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020
2024-0092	Site No: FS0299	N
ectin benzoate) as well as access to suital	ble biological and/or mechanical control measures, and can	N Y Y
valent)?		Y Y Y
d? (CoGP Annex 6)		Y
w/b 10/6/19) during the period that record	s are inspected?	N
treatment or where C elongatus is consi	dered to have welfare implications? (CoGP 4.3.82, 5.3.51)	N/A N N/A
area and a milere of crongular is consi	delica to flate frontale implications. (Cool 4.6.62, 6.6.61)	Y
		N Y
the escalation of a sea lice infestation?		Y
		N
		Y
		N
P – 4.4.38, 5.4.18)		
		Y

FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020
Case No: 2024-0092	Site No: FS0299	
Date of Visit: 17/04/202	24 Inspector:	
Point of Compliance		
Is the farm under inspection located If None further questions require some		Y
If N, no further questions require com	pietion.	
2. Has a current farm management ag3. Is the current FMAg/S available for4. Does the FMAg/S identify the relevant5. Does the FMAg/S identify the fish for	rant farm management area? farm site(s) to which it applies? of commencement of the agreement or statem	Y Y Y Y
Arrangements for Fish Health Mana 8. Does the FMAg/S identify the minin farm?	agement mum health standards for the stocks to be intro	oduced to the area or Y
10. Does the FMAg/S identify the spe-	ination requirements for stocks held in the area ccies of fish which may be stocked into the area ximum stocking density of any pen on any farm	a or farm?
12. Does the FMAg/S identify the arrafish farm in the area or the individual	angements for the storage and disposal of any farm?	dead fish from any
Arrangements for The Management 13. Does the FMAg/S identify arrange	et of Sea Lice Ements for the sharing of data on sea lice numb	bers and treatments?
14. Does the FMAg/S identify the avail of statement?	ilability and the use of medicines on farms cov	ered by the agreement
15. Does the FMAg/S identify any req lice on farms in the area or individual	uirements for the sensitivity testing of available farms?	e treatments for sea
16. Does the FMAg/S identify the circlused on farms in the area or individual	umstances under which biological controls and al farms?	d cleaner fish are to be
	angements for synchronous treatments on farm	ns within the area?
Live Fish Movements 18. Does the FMAg/S identify the circle area or farm?	umstances when live fish may be introduced o	r removed from the
19. Does the FMAg/S identify the arra or individual farms?	angements for the movement of live fish on and	d off sites in the area

FHI 059, Version 13	Issued by: FHI	Date of issue: 12/05/2020	0
Harvesting 20. Does the FMAg/S identify acceptable ha	rvest practices on farms in the area or in	ndividual farms?	
Fallowing 21. Does the FMAg/S identify the dates by w date when a farm or area may be restocked' 22. Does the FMAg/S identify whether one o agreement or statement?	? r more year classes may be stocked ont	to sites covered by the	
23. Does the FMAg/S identify whether brood covered by the agreement or statement?	stock or potential broodstock are to be k	tept on any site	
Point of Compliance for Farm Manageme 24. Does the farm management agreement parties to the agreement?		come, or cease to be, N/A	
Management and operation 25. Is the fish farm being managed and oper 26. What is the version no/date of issue of the		or statement?	

Site No: FS0299

Case No: 2024-0092

Nature of non-compliance:

Action taken (FHI):

Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology

Case No: 2024-0092 Date of visit: 17/04/2024 Site No: FS0299 Inspector: **Results Summary Date of Notification** Freq. Writing 2nd Insp Database Insp Phone Insp Insp MG AGD 0/4 23/04/2024 23/04/2024 17/06/2024 2/4 MG Para ther 23/04/2024 23/04/2024 17/06/2024 23/04/2024 IHN (PCR) - IHNP 0/4 23/04/2024 17/06/2024 23/04/2024 23/04/2024 Salmonid alphavirus 0/4 (SAV) (PCR) - SALP 17/06/2024 17/06/2024 IPN (PCR) - IPNM 0/4 23/04/2024 23/04/2024 ISA (real time qPCR -0/4 23/04/2024 23/04/2024 heart & kidney) - ISAQ 17/06/2024 Piscine myocarditis 0/4 23/04/2024 23/04/2024 virus (CMS) (PCR) -**PMVP** 17/06/2024 17/06/2024 VHS (PCR) - VHSP 0/4 23/04/2024 23/04/2024 MG SAL POX 0/4 17/06/2024 23/04/2024 23/04/2024 2/4 17/06/2024 **VSPE** 02/05/2024 02/05/2024 VVIS 3/4 02/05/2024 02/05/2024 17/06/2024 **PSFL** 4/4 02/05/2024 02/05/2024 17/06/2024 17/06/2024 **SPAT** 3/4 07/06/2024 07/06/2024 11/06/2024 **ADHE** 2/4 17/06/2024 07/06/2024 **PMCH** 1/4 07/06/2024 17/06/2024 SKIN 07/06/2024 07/06/2024 17/06/2024 3/4 Report Summary 2nd Insp Case Type Date Insp ECI, CNI, SLI 22/05/2024 DIAG 17/06/2024 17/06/2024 Case complete

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

Business No FB0125 Date of Visit 17/04/2024 Site No FS0299 Site Name Dunstaffnage

CASE NO 20240092 INSPECTOR

Section 1: Summary

The site was visited for a routine visit. On inspection of the pens several moribund fish were observed at the margins. Four were removed for diagnostic examination and subsequent sampling.

Histopathology examination revealed bacterial ulcerative pathology on the skin of two fish and F3 displayed high numbers of Gram-negative rod-shaped bacteria colonies on the skin. F2 displayed post-mortem artefacts. Marked necrotising splenitis was also observed (F4) and F3 displayed peritonitis with presence high numbers of Gram-negative rod-shaped bacterial colonies. F2 exhibited pericarditis with a few Gram-negative rod-shaped bacteria.

The fish sampled tested positive using qPCR for *Paranucleospora theridion*.

Moritella viscosa was identified on plates taken from kidney material. As a primary fish pathogen its presence is a risk to fish health. *Pseudomonas fluorescens* was identified on plates taken from kidney, lesion and gill material. The purity of growth observed would not suggest these bacteria are the primary source of morbidity, however, the level of growth would raise concern for overall fish health.

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

Dunstaffnage was visited for a routine inspection. At the time of the visit site mortality levels were low, with reported levels ranging from 0.03% to 0.06% per week for in the last 4 weeks. These mortalities were attributed to failed smolts.

On inspection of the pens approximately four to eight moribund fish were observed in each pen, many with lesions. Four moribund fish were removed for diagnostic examination.

Externally all four fish were dark in colour. F1 had a shortened opercula and exophthalmia. F1, F2 and F4 were missing a pectoral fin. F2 displayed an inflamed vent and had a large lesion where the pectoral fin should have been. This penetrated through the skin exposing the body cavity. It also had a badly eroded caudal fin.

Internally F1 had clear ascites in the body cavity as well as adhesions and melanisation. Haemorrhaging was observed on the gut of F2. F3 and F4 displayed enlarged spleens.

<u>Samples</u>

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

R09

Fish number	Facility number	Species	Stage	Origin
F1-F4	7	Atlantic salmon	2024 Q1, 300g	Girlsta

Results

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

The following bacteria were isolated:

- Vibrio sp.:F2 & F4 (kidney), F2 (skin lesion)
- Moritella viscosa: F1, F2 and F4 (kidney)4)
- Pseudomonas fluorescens: F3 (kidney) ,F2 (skin lesion),F1-F4 (gill)

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), salmonid alphavirus (SAV), viral haemorrhagic septicemia virus (VHSV), salmon gill poxvirus (SGPV), piscine myocarditis virus (PMCV).

Parasitology:

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

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.86	>40	>40	>40	POSITIVE
F2	-	-	-	-	Negative
F3	21.66	36.82	37.65	37.66	POSITIVE
F4	-	-	-	-	Negative

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, kidney and brain were taken from four fish. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

<u>Gill:</u> Few individual small foci of lamellar hyperplasia (F3). F2: Reading hindered by post-mortem artefacts.

<u>Skin & Muscle:</u> F1: two foci of musculature haemorrhage. F2 lesion: Partial absence of the epidermis and some bacteria observed on the dermal outer layer. F3 displayed marked focal necrosis with haemorrhaging and high numbers Gram-negative bacteria.

Heart: Marked epicarditis with few Gram-negative rod-shaped bacteria (F2).

<u>Gut and pyloric caeca:</u> Peritonitis, ranging from mild to moderate (F1, F3) and F3 with presence of intracellular Gram-negative bacteria colonies. F2 displayed some cell sloughing potentially associated with post-mortem artefact).

<u>Pancreas:</u> Within the normal range. F2: Post-mortem artefact hindered the reading.

<u>Liver:</u> Sinusoidal hyperaemia (F1).

Kidney: Foci of interstitial necrosis with occasional rod-shaped bacteria (F2, F3).

<u>Spleen:</u> F1 displayed some parenchymal necrosis, F3 multifocal, moderate parenchymal necrosis occasional rod-shaped bacteria and F4 severe, diffuse and no observed bacteria. F2: Post-mortem artefact hindered the reading.

Brain: Within the normal range.

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

Date: 18/06/2024

Signed:

Fish Health Inspector

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Scottish Government website at Fish Health Inspectorate Service Charter - gov.scot (www.gov.scot)

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

 Business No
 FB0125
 Date of Visit
 17/04/2024

 Site No
 FS0299
 Site Name
 Dunstaffnage

 Case No
 20240092
 Inspector

Case completion report

Recommendations in relation to the above case were made for implementation by 21st June 2024. Following submission of the required documentation, evidence has now been provided to the Fish Health Inspectorate to demonstrate that the recommendations have been implemented.

This case will now be closed. This site may be subject to further audit and recommendations in the future.

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

Signed: Date: 17/06/2024
Fish Health Inspector

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Scottish Government website at Fish Health Inspectorate Service Charter - gov.scot (www.gov.scot)

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

Business No FB0125 Date of Visit 17/04/2024 Site No FS0299 Site Name Dunstaffnage

CASE NO 20240092 INSPECTOR

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 Directorate were available for inspection.

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

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, containment and escapes.

The farm management statement was inspected and found to be inadequately maintained. Please see the attached annex detailing the points that must be addressed.

Please ensure that these points have been addressed by 21/06/2024. Records or documentation demonstrating that these points have been addressed should be sent to the Fish Health Inspectorate (contact details below). The site may be subject to further inspection or enforcement action should the appropriate action regarding the above points not be taken within the time period stipulated.

Please contact myself or the duty inspector should you require any assistance or clarification in implementing any requirement or recommendation detailed in this report.

Signed:

Fish Health Inspector

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Scottish Government website at Fish Health Inspectorate Service Charter - gov.scot (www.gov.scot)

Date: 22/05/2024

Annex - The Aquaculture and Fisheries (Scotland) Act 2007

Section 4A of the Aquaculture and Fisheries (Scotland) Act 2007, as amended, introduces the requirement for a person carrying out the business of fish farming within a farm management area⁽¹⁾ to:

- (a) be party to a farm management agreement, or prepare and maintain a farm management statement, in relation to the fish farm, and
- (b) ensure that the fish farm is managed and operated in accordance with the agreement or statement.

To ensure compliance with the Aquaculture and Fisheries (Scotland) Act 2007, as amended, the following points must be addressed in the farm management statement

• The statement or agreement must identify the date of review (farm management agreements or statements must be reviewed at least every two years).

The statement or agreement must include arrangements for;

- The management of parasites⁽²⁾
 This must include arrangements for the requirements for sensitivity testing.
- (1) Farm management area means an area specified as such in the Code of Good Practice for Scottish Finfish Aquaculture
- (2) Parasites as defined in The Aquaculture and Fisheries (Scotland) Act 2007 which means *Caligus elongatus* and *Lepeophtherius salmonis*

















