Case No:	2022-0465	Date of visit:	08/11/2022
Time spent on site:	3 hours	Main Inspector:	[redacted]
Site No:	FS1010	Site Name:	East Tarbert Bay
Business No:	FB0169	Business Name:	Bakkafrost Scotland

Case Types: 1 REP 2 DIA 3 4 5 6

Water Temp (°C):	12.9	Thermometer No:	Site	FHI 045 completed	Y

Observations: Region: ST Water type: S CoGP MA: M-46

Dead/weak/abnormally behaving fish present?	Y	If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?	Y	If yes, see additional information/clinical score sheet.
Gross pathology observed?	Y	If yes, see additional information/clinical score sheet.
Diagnostic samples taken?	Y	

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

Site visited 17/8/22 and diagnostic samples taken case 20220342. Identified from samples - AGD, IPN, vibrio, aeromonas spp, Paranucleospora theridion. - PD confirmed onsite along with gill health issues, AGD confirmed onsite.

Weekly morts for site; 19/9 1.21% 7307 fish; 26/9 4.06% 24260 fish; 3/10 10.27% 58941 fish; 10/10 12.85% 66.587 fish; 17/10 8.37% 38559 fish. Freshwater treatment scheduled week 44 - gill health and viral disease.

Morts for week 43 2022 were 48635 fish (11.53%) due to gill issues, PD and rickettsia, week 44 (10.45%), and week 45 (11.89%)

Site thermometer used as error in T146

SLICE treatment 11/9/22; Freshwater on Ronjafisk, 15/9, 11/10, 6/11

Histo health reports; 24/10/22 acute SAV, gills with multiple aetiologies- no amoebae; 18/10/22; gills low level environmental, suspect PRV, low energy stores suggesting fish not feeding. 26/9/22 AGD

Wrasse mortality reported to be low.

Due to poor weather only able to walk round 4 cages. However moribund fish were collected from theses cages.

Case No:	2022-0465	Site No:	FS1010
Date of Visit:	08/11/2022	Inspector(s):	[redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities		12	Facilities stocked		12	No facilities inspected		4
Species	sal	wrasse						
Age group	2022 S0	wild origin						
No Fish	317,906	not collected						
Mean Fish Wt	797g	mixed						
Next Fallow Date (Site)		May 2024		Next Input Date (Site)		Sept 2024		
Recent (last 4 wks) disease problems?				Y	Any escapes (since last visit)?			N
If yes, detail:	gill issues, PD, Rickettsia							

Movement Records

1. Movement records available for inspection?	Y
2. Date of last inspection:	17/08/2022
3. Are records complete and correctly entered?	Y
4. Are movement records available for dead fish and waste?	Y
5. Are records complete and correctly entered?	Y
6. Are health certificates for introductions (outwith GB) available?	N/A

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?	Y
2. How are mortalities disposed of?	Biogas - Barkip
If other detail:	
3. Mortality records complete and correctly entered?	Y
4. Recent mortality (last 4 wks):	2022 wk45 11.89%, wk44 10.45%, wk43 11.53%, wk42 8.37%
5. Evidence of recent increased/atypical mortalities?	Y

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

across site, gill health, SRS, PD

6. Any other peaks in mortality during period checked?	Y
If yes, detail:	mortality ongoing since last visit 17/8/22
7. Have increased (unexplained) mortalities been reported to vet or FHI?	Y
If yes, detail action:	health surveillance and FW treatments for gill issues
8. 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)?	N
If yes, detail:	
If other, detail:	
2. Medicines records available for inspection?	Y
3. Are records complete and correctly entered?	Y
4. Are fish in a withdrawal period?	N
5. If yes, what treatment(s)?	
If other, detail:	
6. Are medicines stored appropriately?	Y

Biosecurity Records

1. Biosecurity records available for inspection?	
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	
3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any *increased* (*unexplained)* mortality at the site been included?	
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	
8. Have the biosecurity procedures been adequately implemented on site?	
If no, detail:	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	Y
2. If yes, are results available for inspection?	Y
3. Any significant results?	Y
If yes, detail (if not detailed under recent disease problems).	PCR +ve AGD, PRV, SAV, SRS, T. matitimum (4.11.22)

Records checked between:	17/8/22- 9/11/22

Case no:	2022-0465	Site No:	FS1010	Date of visit/ Sampling:	08/11/2022	08/1							
Priority samples:	VI		BA		PA		MG		HI				
Time sampling starts/ends:	12:00:00	13:00:00	Inspector:		VMD No.	0							
Environmental conditions:	1	Indoors	2		3		4		5				
Summary samples	HIST	Y	BA	Y	MG	Y	VI		PA		Total Samples		

Add Fish/Pools - click

	Pool/Fish No	F1	F2	F3	F4	F5	P1						
	Fish nos	1	2	3	4	5	1-5						
	Pool Group	P1	P1	P1	P1	P1							
Stock Details	Species	SAL	SAL	SAL	SAL	SAL	SAL						
	Average weight	700g	700g	700g	700g	700g	700g						
	Sex	N/A	N/A	N/A	N/A	N/A	N/A						
	Water Type	SW	SW	SW	SW	SW	SW						
	Stock Origin	Girlsta Hatchery	Girlsta Hatchery	Girlsta Hatchery	Girlsta Hatchery	Girlsta Hatchery	Girlsta Hatchery						
	Facility No	1	1	1	10	10	1,10						

11/2022 Additional Sample Information:

6 Total Tests assigned 5

Case no: 2022-0465 Site No: FS1010 Method of killing: Percussive

Date of visit: 08/11/2022 Inspector(s): [redacted] Sheet Relevant: Y

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

Fish Number		**1**	**2**	**3**	**4**	**5**					
Time sampled after death (if > 45 minutes)											
External Signs											
Behaviour	**Moribund**	**S**	**S**	**S**	**S**	**S**					
	Lethargic	**S**	**S**	**S**	**S**	**S**					
	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**								
	Zoned										
	Necrotic		**W**								
Lesions	**Flank**	**S**									
	Elsewhere										
Vent	**Inflamed**										
	Trailing faeces										
Lice Load	**Estimate numbers**	**0**	**0**	**0**	**0**	**1**					
Internal Signs											
Ascites	**Clear**	**S**									
	Bloody										
Oedema	**In tissues**										
Heart	**Pale/anaemic**										
	Granulomas										
	Deformed										
Liver	**Petechial haem**										
	Gross haem										
	Tissue breakdown										
	Enlarged										
	Colour number(s)	**1**	**1**	**1**	**1**	**1**					
	Granulomas										
	Lesions										
Pyloric caeca	**Petechial haem**	**W**									
	Tubules mauve										
	Lack of fat			**S**		**S**					
Spleen	**Enlarged**	**S**	**S**	**S**							
	Granulomas										
Gut	**No food present**	**S**	**S**		**S**	**S**					
	Yellow pseudo-faeces			**S**							
	External haem										
	Internal haem										
Body wall	**Haemorrhaging**										
Swim bladder	**Haemorrhaging**										
	Fluid filled										
Kidney	**Swollen**										
	Grey										
	Granular										
	Liquefied										
General	**Parasites present**										
	Anaemia										

Case no: 2022-0465

Date of visit: 08/11/2022

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

Fish Number											
Time sampled after death (if > 45 minutes)											
External Signs											
Behaviour	**Moribund**										
	Lethargic										
	Hanging vertical										
	Spiralling										
	Flashing										
	Loss of equilibrium										
Body	**Dark**										
	Distended abdomen										
	Anorexic										
	Scale Oedema										
Opercula	**Shortened**										
	Flared										
Haemorrhaging	**Throat**										
	Ventrum										
	Base of fins										
	Elsewhere										
Eyes	**Exophthalmic**										
	Enophthalmic (sunken)										
	Cataract										
	Haemorrhagic										
Gills	**Pale**										
	Zoned										
	Necrotic										
Lesions	**Flank**										
	Elsewhere										
Vent	**Inflamed**										
	Trailing faeces										
Lice Load	**Estimate numbers**										
Internal Signs											
Ascites	**Clear**										
	Bloody										
Oedema	**In tissues**										
Heart	**Pale/anaemic**										
	Granulomas										
	Deformed										
Liver	**Petechial haem**										
	Gross haem										
	Tissue breakdown										
	Enlarged										
	Colour number(s)										
	Granulomas										
	Lesions										
Pyloric caeca	**Petechial haem**										
	Tubules mauve										
	Lack of fat										
Spleen	**Enlarged**										
	Granulomas										
Gut	**No food present**										
	Yellow pseudo-faeces										
	External haem										
	Internal haem										
Body wall	**Haemorrhaging**										
Swim bladder	**Haemorrhaging**										
	Fluid filled										
Kidney	**Swollen**										
	Grey										
	Granular										
	Liquefied										
General	**Parasites present**										
	Anaemia										

Additional comments:

F2- Inflamed hind gut. F3 -fluid filled gut, inflamed hind gut. F5 - runt

Case No: 2022-0465 Date of visit: 08/11/2022

Site No: FS1010 Inspector: [redacted]

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp
MG Para Ther	4/5	21/11/2022		22/11/2022		24/01/2022		
MG PRV	0/1	01/12/2022				24/01/2022		
MG IPN	no result					24/01/2022		
MG Pisci	4/5	21/11/2022		22/11/2022		24/01/2022		
MG PMCV	no result					24/01/2022		
MG SAV	no result					24/01/2022		
MG AGD	1/5	22/11/2022		22/11/2022		24/01/2022		
MG Sal pox	4/5	22/11/2022		22/11/2022		24/01/2022		
AERO	3/5	28/11/2022				24/01/2022		
VSPE	4/5	28/11/2022				24/01/2022		
PISH	1/5	01/12/2022				24/01/2022		
EPIT	3/5	01/12/2022				24/01/2022		
GPAT	5/5	01/12/2022				24/01/2022		
CGDH	5/5	01/12/2022				24/01/2022		
LPAT	2/5	01/12/2022				24/01/2022		
ADHE	3/5	01/12/2022				24/01/2022		
SKIN	4/5	01/12/2022				24/01/2022		
HPAT	5/5	01/12/2022				24/01/2022		
IHN V	0/5	02/12/2022				24/01/2022		
MG ISA	no result					24/01/2022		
VHS V	0/5	02/12/2022				24/01/2022		
V IPN	1/5	09/01/2023				24/01/2022		
ISA	0/5	09/01/2023				24/01/2022		
SAV	1/5	09/01/2023				24/01/2022		

Report Summary			
Case Type	Date	Insp	2nd Insp
Daig, Rep	24/01/2022		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0169	**DATE OF VISIT**	09/11/2022
SITE NO	FS1010	**SITE NAME**	East Tarbert Bay
CASE NO	20220465	**INSPECTOR**	[redacted]

Section 1: Summary

East Tarbert Bay was inspected following reports of increased mortality by the farm operator. During the inspection moribund fish were observed and five fish were removed for diagnostic sampling.

Histopathology examination revealed pathology consistent with salmonid rickettsial septicaemia (SRS). This was confirmed by qPCR in the fish tested.
Gills show multifocal, mild, hyperplasic branchitis associated with complex gill issues. Epitheliocystis (likely *Brachiomonas* sp.) were observed. Fish were confirmed positive by qPCR for *Neoparamoeba perurans* (amoebic gill disease), *Paranucleospora theridion* and salmon gill poxvirus.
The myositis and myocarditis observed could potentially be associated with the presence of salmon alpha virus and F2 displayed musculature lesions resembling HSMI.

Aeromonas sp and *vibrio* sp. were isolated from samples taken. The level and purity of growth would not suggest they would be implicated as the source of morbidity and in the lesion are likely to be present as a secondary infection.

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 has been experiencing on-going increased mortalities since August 2022. The inspectorate has previously visited on 17th August 2022, but mortality issues have persisted and have been further increasing. The reported moralities are attributed to gill health issues, viral disease (salmonid alpha virus) and bacterial disease (*Piscirickettsia salmonis)*. On the day of the inspection adverse weather and sea condition resulted in only 4 of the 12 stocked pens being able to be inspected. However, moribund fish were observed at the pen margins and five were remove for diagnostic examination.

Fish F1 had flank lesions. F2 had pale necrotic gills. Internally, all the fish sampled had pale livers and F2 has ascites. F1- F3 had enlarged spleens. A lack of fat on the pyloric caeca was observed in F3 and F5. None of the fish had food in their guts except for F3 which had yellow pseudo-faeces.

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science

Samples

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

Fish number	Facility number	Species	Stage	Origin
1-3	1	Atlantic salmon	2022 S0 @ 700g	Girlsta Hatchery
4-5	10	Atlantic salmon	2022 S0 @ 700g	Girlsta Hatchery

Results

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

The following bacteria were isolated;

- *Aeromonas* sp.: F1 (Kidney, Lesion); F3 & F4 (Kidney)
- *Vibrio* sp. (isolate 1): F1 (Kidney, Lesion); F4 (Kidney);
- *Vibrio* sp. (isolate 2): F1 (Kidney, Lesion); F2-F4 (Kidney)

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

Piscirickettsia salmonis.

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	18.24	20.11	20.18	19.67	POSITIVE
F2	17.68	34.17	34.16	35.15	POSITIVE
F3	-	-	-	-	negative
F4	18.36	35.05	35.06	40.52	POSITIVE
F5	18.78	35.02	34.65	34.52	POSITIVE

DNA sequence analysis was performed on kidney samples. The results confirmed the QPCR positive amplification of *Piscirickettsia salmonis*.

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

Salmon gill poxvirus

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	20.8	27.76	27.62	27.95	POSITIVE
F2	18.95	26.6	26.61	26.51	POSITIVE
F3	17.9	32.54	32.9	32.78	POSITIVE
F4	-	-	-	-	negative
F5	18.66	24.17	24.37	24.24	POSITIVE

The samples were also tested by qPCR for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), infectious salmon anaemia virus (ISAV), salmonid

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alphavirus (SAV), viral haemorrhagic septicemia virus (VHSV), piscine reovirus (PRV) and piscine myocarditis virus (PMCV). These tests were reported as no result.

The samples which presented no results by qPCR were run by cell culture for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), viral haemorrhagic septicemia virus (VHSV), Infectious pancreatic necrosis virus (IPNV) and Salmonid alphavirus (SAV). Fish, F5 tested positive for IPN and fish F2 tested positive for SAV. All other cell culture tests were negative.

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

Neoparamoeba perurans (AGD)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	-	-	-	-	negative
F2	-	-	-	-	negative
F3	-	-	-	-	negative
F4	-	-	-	-	negative
F5	18.66	33.6	32.95	33.83	POSITIVE

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	-	-	-	-	negative
F2	18.95	21.62	22.05	21.96	POSITIVE
F3	17.9	24.23	24.31	23.78	POSITIVE
F4	20.62	26.36	26.9	26.64	POSITIVE
F5	18.66	19.58	19.08	19.4	POSITIVE

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

Histopathological examination revealed the following:

Gill: Filament necrosis, focal, mild and presence of few intracellular blue round structures (likely *Piscirickettsia* sp.) (F1). Filament hyperplasia and lamellar fusion mild, multifocal (F2, F3, F4) and diffuse (F5). Few basophilic epithelial inclusions (likely epitheliocystis) (F2, F3, F4). F4 displayed moderate, diffuse inflammatory cell infiltrate in the centre gill filament and branchial arch. Lamellar telangiectasia with multifocal thrombosis and free blood among gill filaments (F2).

Skin & Muscle: Partial absence of epidermal layer, musculature necrosis and degeneration, some inflammatory cell infiltration and haemorrhage, presence of few blue round structures that stained Giemsa positive within the cells (likely *Piscirickettsia* sp.) observed in F1. F2 displayed focally extended degeneration and inflammation of the red muscle and to a lesser extension in F3 & F4.

Heart: Minimal, multifocal necrosis (F1), F2-F5 exhibited mild multifocal inflammatory cell infiltration and fibre degeneration. Mild epicarditis (F2, F4). F5: no atrium.

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Website - www.gov.scot/Topics/marine/science

Gut and pyloric caeca: Peritonitis, mild, multifocal (F1, F2, F4) and some haemorrhage, presence of some bacteria within the intestinal lumen (F1). F5 displayed absence of abdominal adipose tissue.

Pancreas: Within the normal range.

Liver: Several granulomas (F1 & F5), minimal cuffing (F1).

Kidney: Interstitial cell (haemopoietic) necrosis mild, multifocal (F1 & F2), several renal tubules with hyaline droplets.

Spleen: Capsulitis and some cuffing (F1), foci of cellular necrosis (F2).

Signed: [redacted] Date: 09/01/2023

Fish Health Inspector

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

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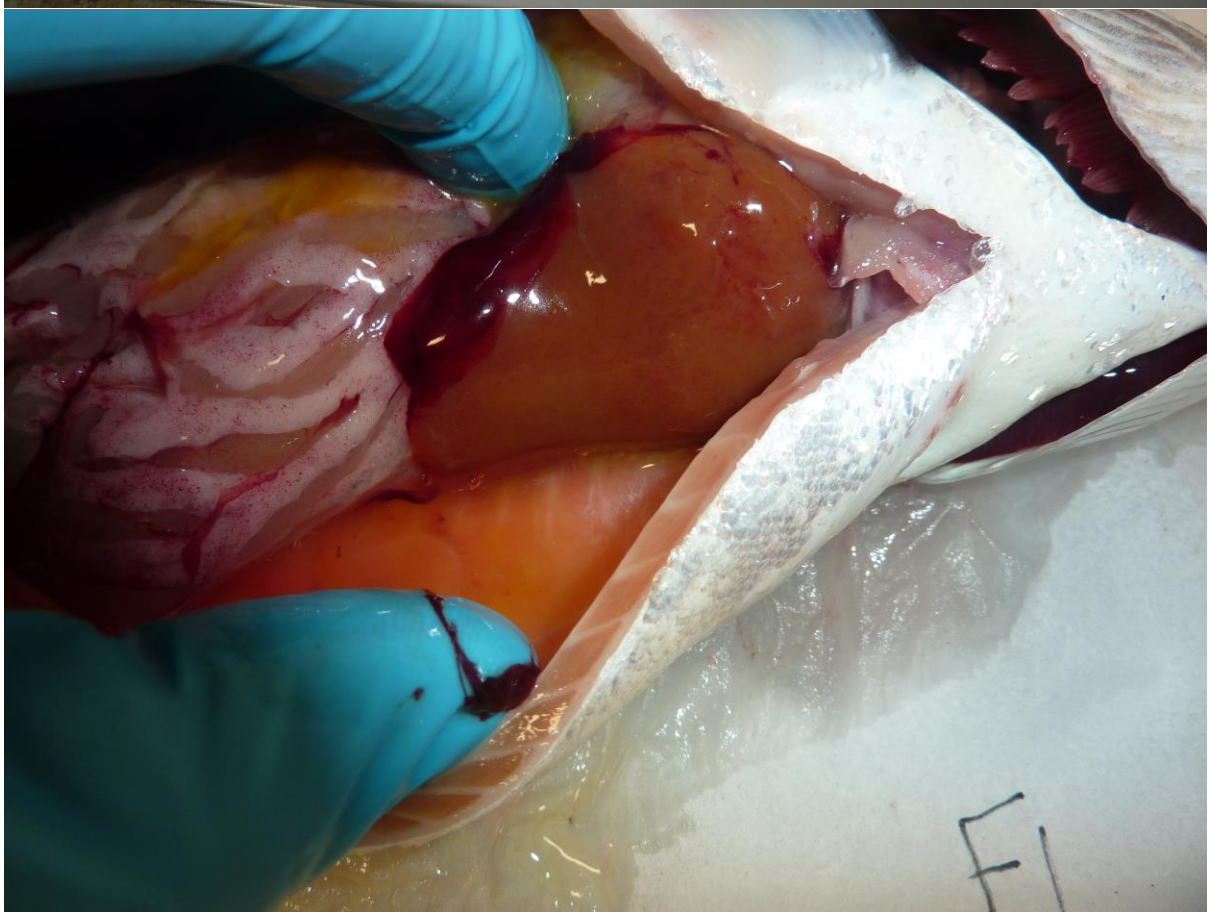
F3
F2


F1


F1


ETB
F4


F5

Case No: 2022-0541 Date of visit: 08/11/2022

Time spent on site: 5 hours Main Inspector: [redacted]

Site No: FS0299 Site Name: Dunstaffnage
Business No: FB0125 Business Name: Scottish Sea Farms Ltd

Case Types: 1 REP 2 DIA 3 4 5 6

Water Temp (°C): 13.1 Thermometer No: Site FHI 045 completed Y

Observations: Region: ST Water type: S CoGP MA: M-36

Dead/weak/abnormally behaving fish present?	Y	If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?	Y	If yes, see additional information/clinical score sheet.
Gross pathology observed?	Y	If yes, see additional information/clinical score sheet.
Diagnostic samples taken?	Y	

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

Mort events 10/10 - 1.2%- Gill health environmental - 7945 fish- scheduled peroxide for AGD treatment
Mort events 17/10 - 4.5%- Gill health environmental - 28952 fish- scheduled peroxide for AGD treatment
Mort events 24/10 - 6.9%- Gill health environmental - 42345 fish- CGD scheduled peroxide for AGD treatment
Mortality attributed to poor gill health - AGD confirmed and the site is reporting high counts for PGD. High levels of Muggiaea atlantica (jellyfish) have been identified during plankton counts. Paramove treatment conducted in week 43, post treatment mortality to the weaker, non feeding population. Mortality has begun to decreased following treatment.

Morts; 31/10 - 8/11/22 -9 Days 6758 fish 1.18%/site

lice levels at last count ; adult female - zero, total 0.33 all stages

wild caught wrasse on site; Skye, Wrasse mortality has been low

Paramove treatment week 43 for gill issues. 5 slice treatments since input, last one 18/9/22

Site thermometer used as error in T146

87000 morts in October from 99235 totals morts since input.

On inspection moribund fish observed in pen margins. Lesions observed on many fish, some single deep lesions and some fish with many lesions all over body surface. Lesions appeared in August prior to mort issues and bloom.

Mortalities generally incinerated on site but with increased mortalities incinerator unable to manage. Morts are been taken whole and stored at the shore base in Loch Spelve as this site is currently not stocked, is the only site in the disease managements area and Dunstaffnage does not have a suitable shore base. Morts been collected by Billy Bowie. Transport doc are at Spelve shore base so could not confirm the final destination of morts.

Case No:	2022-0541	Site No:	FS0299
Date of Visit:	08/11/2022	Inspector(s):	[redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities		10	Facilities stocked		10	No facilities inspected		4
Species	sal	wrasse						
Age group	2022 Q2	mixed						
No Fish	567,016	20,148						
Mean Fish Wt	1061g	25g-200g						
Next Fallow Date (Site)		uncertain		Next Input Date (Site)		not known		
Recent (last 4 wks) disease problems?				Y	Any escapes (since last visit)?			N
If yes, detail:	CGI, AGD, PGD							

Movement Records

1. Movement records available for inspection?	Y
2. Date of last inspection:	24/06/2022
3. Are records complete and correctly entered?	Y
4. Are movement records available for dead fish and waste?	N
5. Are records complete and correctly entered?	N/A
6. Are health certificates for introductions (outwith GB) available?	N/A

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?	Y
2. How are mortalities disposed of?	Incinerated - on site
If other detail:	
3. Mortality records complete and correctly entered?	Y
4. Recent mortality (last 4 wks):	see additional info
5. Evidence of recent increased/atypical mortalities?	Y
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
across site- Gill health	
6. Any other peaks in mortality during period checked?	Y
If yes, detail:	starts 10/10/22 - across site environmental gill health issues
7. Have increased (unexplained) mortalities been reported to vet or FHI?	Y
If yes, detail action:	health surveillance conducted
8. 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:	Paramove
If other, detail:	
2. Medicines records available for inspection?	Y
3. Are records complete and correctly entered?	Y
4. Are fish in a withdrawal period?	N
5. If yes, what treatment(s)?	
If other, detail:	
6. Are medicines stored appropriately?	Y

Biosecurity Records

1. Biosecurity records available for inspection?	
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	
3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any *increased* (*unexplained)* mortality at the site been included?	
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	
8. Have the biosecurity procedures been adequately implemented on site?	
If no, detail:	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	Y
2. If yes, are results available for inspection?	Y
3. Any significant results?	Y
If yes, detail (if not detailed under recent disease problems).	AGD
Records checked between:	24/6/22- 7/11/22

Case no:	2022-0541	Site No:	FS0299	Date of visit/ Sampling:	08/11/2022	08/1							
Priority samples:	VI		BA		PA		MG		HI				
Time sampling starts/ends:	12:00:00	13:00:00	Inspector:		VMD No.	0							
Environmental conditions:	1	Indoors	2		3		4		5				
Summary samples	HIST	Y	BA	Y	MG	Y	VI		PA		Total Samples		

Add Fish/Pools - click

	Pool/Fish No	F1	F2	F3	F4	F5	P1						
	Fish nos	1	2	3	4	5	1-5						
	Pool Group	P1	P1	P1	P1	P1							
Stock Details	Species	SAL	SAL	SAL	SAL	SAL							
	Average weight	900g	900g	900g	900g	900g	900g						
	Sex												
	Water Type	SW	SW	SW	SW	SW	SW						
	Stock Origin	Barcaldine Smolt Unit	Barcaldine Smolt Unit	Barcaldine Smolt Unit	Barcaldine Smolt Unit	Barcaldine Smolt Unit	Barcaldine Smolt Unit						
	Facility No	6	6	6	6	10	10						

11/2022 Additional Sample Information:

6 Total Tests assigned 4

Case no: 2022-0541 Site No: FS0299 Method of killing: Anaesthetic

Date of visit: 08/11/2022 Inspector(s): [redacted] Sheet Relevant: Y

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

Fish Number		1	2	3	4	5					
Time sampled after death (if > 45 minutes)					1.5h	1.5h					
External Signs											
Behaviour	Moribund	S	S	S	S	S					
	Lethargic	S	S	S	S	S					
	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	S	S	S	S				
	Zoned										
	Necrotic	W	W	W	W	W	W				
Lesions	Flank	S	S	S	S	S	S				
	Elsewhere										
Vent	Inflamed										
	Trailing faeces										
Lice Load	Estimate numbers	0	0	0	0	0					
Internal Signs											
Ascites	Clear										
	Bloody										
Oedema	In tissues										
Heart	Pale/anaemic										
	Granulomas										
	Deformed										
Liver	Petechial haem			S							
	Gross haem										
	Tissue breakdown										
	Enlarged										
	Colour number(s)	2	2	2	2	6					
	Granulomas										
	Lesions										
Pyloric caeca	Petechial haem										
	Tubules mauve										
	Lack of fat				S						
Spleen	Enlarged	M	M								
	Granulomas										
Gut	No food present	S		S		S					
	Yellow pseudo-faeces		S		S						
	External haem										
	Internal haem				S						
Body wall	Haemorrhaging										
Swim bladder	Haemorrhaging										
	Fluid filled										
Kidney	Swollen										
	Grey										
	Granular										
	Liquefied										
General	Parasites present										
	Anaemia										

Case no: 2022-0541

Date of visit: 08/11/2022

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

Fish Number											
Time sampled after death (if > 45 minutes)											
External Signs											
Behaviour	**Moribund**										
	Lethargic										
	Hanging vertical										
	Spiralling										
	Flashing										
	Loss of equilibrium										
Body	**Dark**										
	Distended abdomen										
	Anorexic										
	Scale Oedema										
Opercula	**Shortened**										
	Flared										
Haemorrhaging	**Throat**										
	Ventrum										
	Base of fins										
	Elsewhere										
Eyes	**Exophthalmic**										
	Enophthalmic (sunken)										
	Cataract										
	Haemorrhagic										
Gills	**Pale**										
	Zoned										
	Necrotic										
Lesions	**Flank**										
	Elsewhere										
Vent	**Inflamed**										
	Trailing faeces										
Lice Load	**Estimate numbers**										
Internal Signs											
Ascites	**Clear**										
	Bloody										
Oedema	**In tissues**										
Heart	**Pale/anaemic**										
	Granulomas										
	Deformed										
Liver	**Petechial haem**										
	Gross haem										
	Tissue breakdown										
	Enlarged										
	Colour number(s)										
	Granulomas										
	Lesions										
Pyloric caeca	**Petechial haem**										
	Tubules mauve										
	Lack of fat										
Spleen	**Enlarged**										
	Granulomas										
Gut	**No food present**										
	Yellow pseudo-faeces										
	External haem										
	Internal haem										
Body wall	**Haemorrhaging**										
Swim bladder	**Haemorrhaging**										
	Fluid filled										
Kidney	**Swollen**										
	Grey										
	Granular										
	Liquefied										
General	**Parasites present**										
	Anaemia										

Additional comments:

F1 - deep lesion, F2 deep lesion fluid filled gut, F3- surface lesion, choc chip liver, enlarged gall bladder, F4 spotted lesions all over flanks, inflamed hind gut, haemorrhaging on gills, F5 spot lesions over flanks, haemorrhaging on gills.

Case No: 2022-0541 Date of visit: 08/11/2022

Site No: FS0299 Inspector:

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp
MG Parather	5/5	15/11/2022		15/11/2022		18/01/2022		
MG Pisci	5/5	15/11/2022		15/11/2022		18/01/2022		
MG AGD	5/5	15/11/2022		15/11/2022		18/01/2022		
MG sal Pox	5/5	15/11/2022		15/11/2022		18/01/2022		
MG IPN	0/3	22/11/2022				18/01/2022		
MG ISA	0/3	22/11/2022				18/01/2022		
MG PMCV	0/3	22/11/2022				18/01/2022		
MG SAV	0/3	22/11/2022				18/01/2022		
MG VHS	0/3	22/11/2022				18/01/2022		
MG IHN	0/3	22/11/2022				18/01/2022		
VVIS	1/5	25/11/2022				18/01/2022		
VSPE	5/5	28/11/2022				18/01/2022		
GPAT	5/5	01/12/2022				18/01/2022		
EPIT	4/5	01/12/2022				18/01/2022		
SPAT	5/5	01/12/2022				18/01/2022		
SKIN	5/5	01/12/2022				18/01/2022		
PISH	2/5	01/12/2022				18/01/2022		
LPAT	4/5	01/12/2022				18/01/2022		
KPAT	4/5	01/12/2022				18/01/2022		
AMGD	5/5	01/12/2022				18/01/2022		
CGDH	5/5	01/12/2022				18/01/2022		
HPAT	4/5	01/12/2022				18/01/2022		
VI IPN, ISA, SAV, VHS, IHN	0/2	18/01/2022				18/01/2022		

Report Summary			
Case Type	Date	Insp	2nd Insp
Diag	18/01/2022		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0125	**DATE OF VISIT**	08/11/2022
SITE NO	FS0299	**SITE NAME**	Dunstaffnage
CASE NO	20220541	**INSPECTOR**	[redacted]

Section 1: Summary

Dunstaffnage was inspected following reports of increased mortality by the farm operator. During the inspection moribund fish were observed and five fish were removed for diagnostic sampling.

Histopathology examination revealed mixed and complex pathology. There was pathology consistent with salmonid rickettsial septicaemia (SRS). This was confirmed by qPCR in all five fish tested. Gills displayed multifocal, mild, hyperplasic branchitis associated with complex gill issues. Lesions could also be associated with environmental factors. Epitheliocystis (likely Brachiomonas sp.) and amoebic gill disease were also observed. All fish were confirmed positive by qPCR for *Neoparamoeba perurans* (amoebic gill disease), *Paranucleospora theridion* and salmon poxvirus. Liver and kidney of F3 displayed mild zonal haemorrhagic hepatocellular necrosis and glomerular necrosis, potentially associated with systemic Moritella systemic infection/toxemia.

Moritella viscosa and two *Vibrio* spp were identified. The level and purity would not suggest they would be implicated in current morbidity.

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

Observation

The site had been experiencing increased mortalities, peaking at 6.9% for the week starting 24/10/22 and attributed to environmental and gill health issues. On inspection moribund fish were observed at the pen margins. Lesions were observed on many fish, some single deep lesions and some fish with many smaller circular lesions all over their flanks. Five moribund fish were removed for diagnostic examination.

All the fish sampled had pale necrotic gills, with gill haemorrhaging in fish F4 and F5 . Fish 1 had a large deep lesion above the anal fin. Fish 2 had two large lesions on the flank between the anal and pelvic fin. Fish 3 had a smaller lesion above the pelvic fin which appeared to be healing. Fish F4 and F5 had about seven small round lesions, described as cigarette burn type lesions, on both flanks. They also all had pale livers with petechial haemorrhages observed on the liver of F3. F1 and F2 had enlarged spleens. F1, F3 and F5 had no food in their gut with F2 and F3 having yellow pseudo faeces. F4 exhibited internal haemorrhaging of the gut.

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Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science

Samples

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

Fish number	Pool number	Facility number	Species	Stage	Origin
1-4	1	6	Atlantic salmon	2022 Q2, 900g	Barcaldine smolt unit
5	1	10	Atlantic salmon	2022 Q2, 900g	Barcaldine smolt unit

Results

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

The following bacteria were isolated;

Vibrio sp. (isolate a): kidney (1/5), lesion (5/5)
Vibrio sp. (isolate b): kidney (3/5), lesion (3/5)
Moritella viscosa: lesion (1/5)

The level and purity of the *Vibrio* sp. would not suggest they would be implicated in morbidity. *Moritella viscosa* was identified on plates taken from lesion material of 1/5 fish. Although *Moritella viscosa* is a primary fish pathogen, the level and purity observed would not suggest it would be linked to current fish morbidity.

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

Piscirickettsia salmonis

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	18.09	23.75	23.62	23.71	POSITIVE
F2	19.19	23.02	22.85	23.29	POSITIVE
F3	18.78	31.31	30.82	31.12	POSITIVE
F4	18.17	35.92	36.24	35.72	POSITIVE
F5	19.32	26.14	25.92	26.14	POSITIVE

DNA sequence analysis was performed on kidney samples. The results confirmed the QPCR positive amplification of *Piscirickettsia salmonis*.

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

Salmon gill poxvirus

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.84	25.5	25.44	25.41	POSITIVE
F2	19.02	24.74	24.46	24.53	POSITIVE

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F3	19.61	27.79	27.46	27.69	POSITIVE
F4	19.18	31.9	32.09	31.81	POSITIVE
F5	19.54	22.42	22.16	22.19	POSITIVE

From the samples tested by qPCR, F2, F3 and F4 tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), infectious salmon anaemia virus (ISAV), salmonid alphavirus (SAV), viral haemorrhagic septicemia virus (VHSV) and piscine myocarditis virus (PMCV). The other two fish were also tested but have been reported as "no result".

The two samples which presented no results by qPCR were run by cell culture for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), and viral haemorrhagic septicemia virus (VHSV), Infectious pancreatic necrosis virus (IPNV) and Salmonid alphavirus (SAV). The results of these tests were negative.

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

Neoparamoeba perurans (AGD)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.84	27.19	27.49	27.58	POSITIVE
F2	19.02	26.53	26.38	26.26	POSITIVE
F3	19.61	27.04	27.06	26.82	POSITIVE
F4	19.18	26.33	26.24	26.19	POSITIVE
F5	19.54	25.28	26.19	25.99	POSITIVE

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.84	22.01	22.09	21.77	POSITIVE
F2	19.02	21.79	21.42	21.57	POSITIVE
F3	19.61	21.45	21.54	21.39	POSITIVE
F4	19.18	23.7	23.69	23.32	POSITIVE
F5	19.54	20.64	20.9	20.83	POSITIVE

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

Histopathological examination revealed the following:

Gill: Filament hyperplasia and lamellar fusion mild, multifocal (F1-F5), filament necrosis, focal, mild (F1-F5), presence of few amoeboid cells resembling *Neoparamoeba perurans* observed in all fish and few basophilic epithelial inclusions (likely epitheliocystis) (F2-F5), some vascular disturbance also noticed. F2 exhibited a focally extended area with several intracellular round blue structures resembling bacteria (likely *Piscirickettsia* sp.), these bacteria stained Gram-negative and positive to Giemsa stain. F3 also displayed circulating inflammatory cells in the vessels and some haemorrhage, cell debris with rod-shaped bacteria associated.

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Skin & Muscle: Partial absence of epidermal layer, musculature necrosis and degeneration, some inflammatory cell infiltration and haemorrhage, presence of few intracellular round blue structures resembling bacteria (likely *Piscirickettsia* sp.) observed in F1 & F2 and other bacteria on the outer layer of the dermis observed in all fish. F4 displayed also congested vessels, haemorrhaged, inflammation and necrosis of skeletal read muscle

Heart: Small foci of cellular degeneration (F2) and inflammatory cells (F3-F5). Mild epicarditis (F2, F4). F2: no atrium.

Gut and pyloric caeca: Peritonitis, mild, multifocal (F2, F4, F5) and some haemorrhage, presence of some bacteria within the intestinal lumen (F1). F3: No Gut and pyloric caeca tissue in section.

Pancreas: Within the normal range. F3: Pancreas tissue not in section.
Liver: Hepatocellular necrosis, mild, multifocal (F2). F3 exhibited random, mild, multifocal hepatocellular cell degeneration and necrosis, multifocal congestion and dilation of the hepatic sinusoids and foci of sinusoidal haemorrhage with several cells exhibiting granules of melanin. A varied number of hepatocytes exhibited cytoplasmic protein-like inclusion roughly spherical of varied size, some being brightly eosinophilic but the majority presented more basophilic properties, potentially linked to erythrocyte degradation. F4 and F5 displayed hepatocellular vacuolation (macrovisicules).

Kidney: F3 displayed several glomeruli displayed shrunken appearance, congested vessels and pink material potentially linked with erythrocyte degradation and some dilation of renal tube lumen. F1 and F2 displayed interstitial cell (haemopoietic) necrosis mild, multifocal and few round blue structures resembling bacteria (likely *Piscirickettsia* sp.) were also observed. F5 exhibited Interstitial cell (haemopoietic) necrosis, multifocal, mild.

Spleen: Necrosis, multifocal, mild (F1, F2, F5). some cuffing (F3, F4, F5), foci of cellular necrosis (F2).

Signed: [redacted] Date: 18/01/2023

Fish Health Inspector

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

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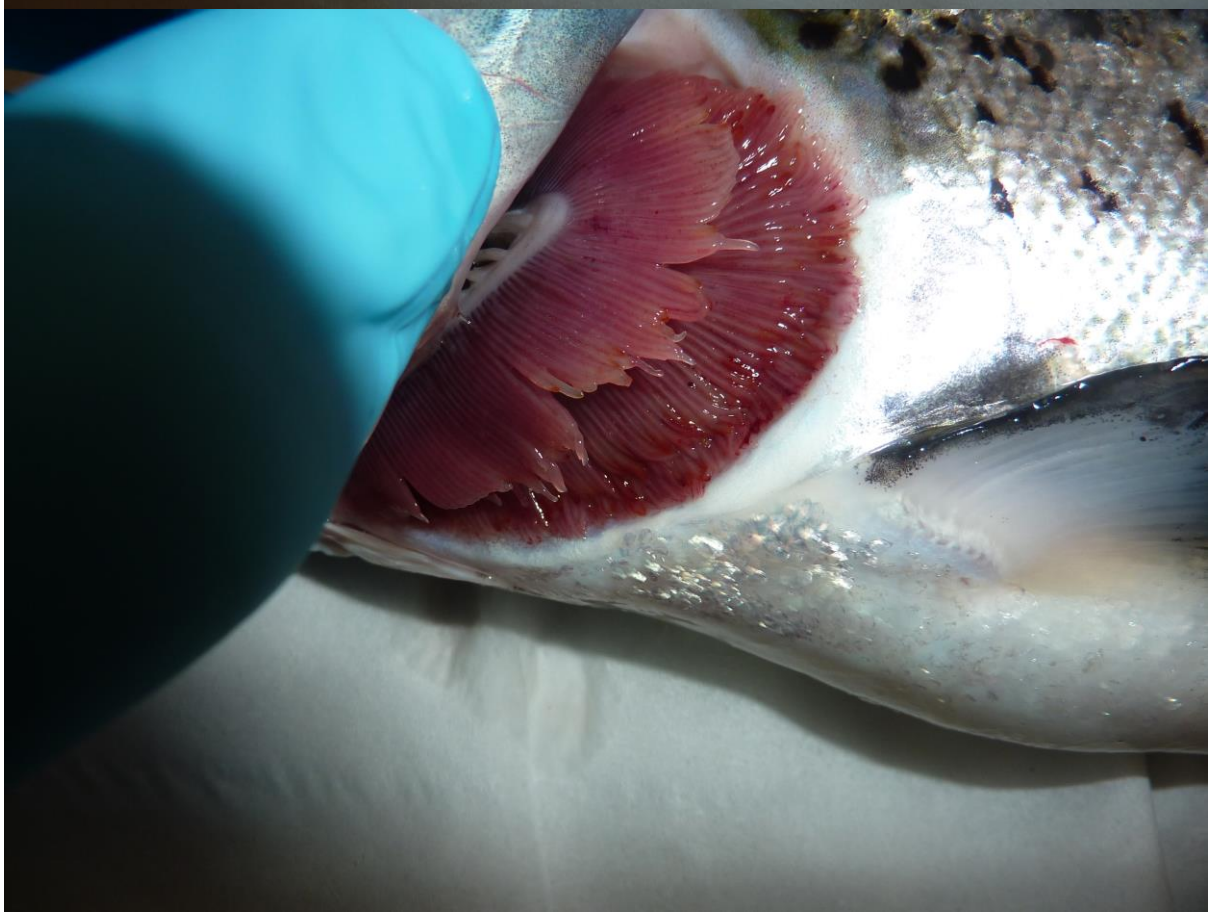
F1

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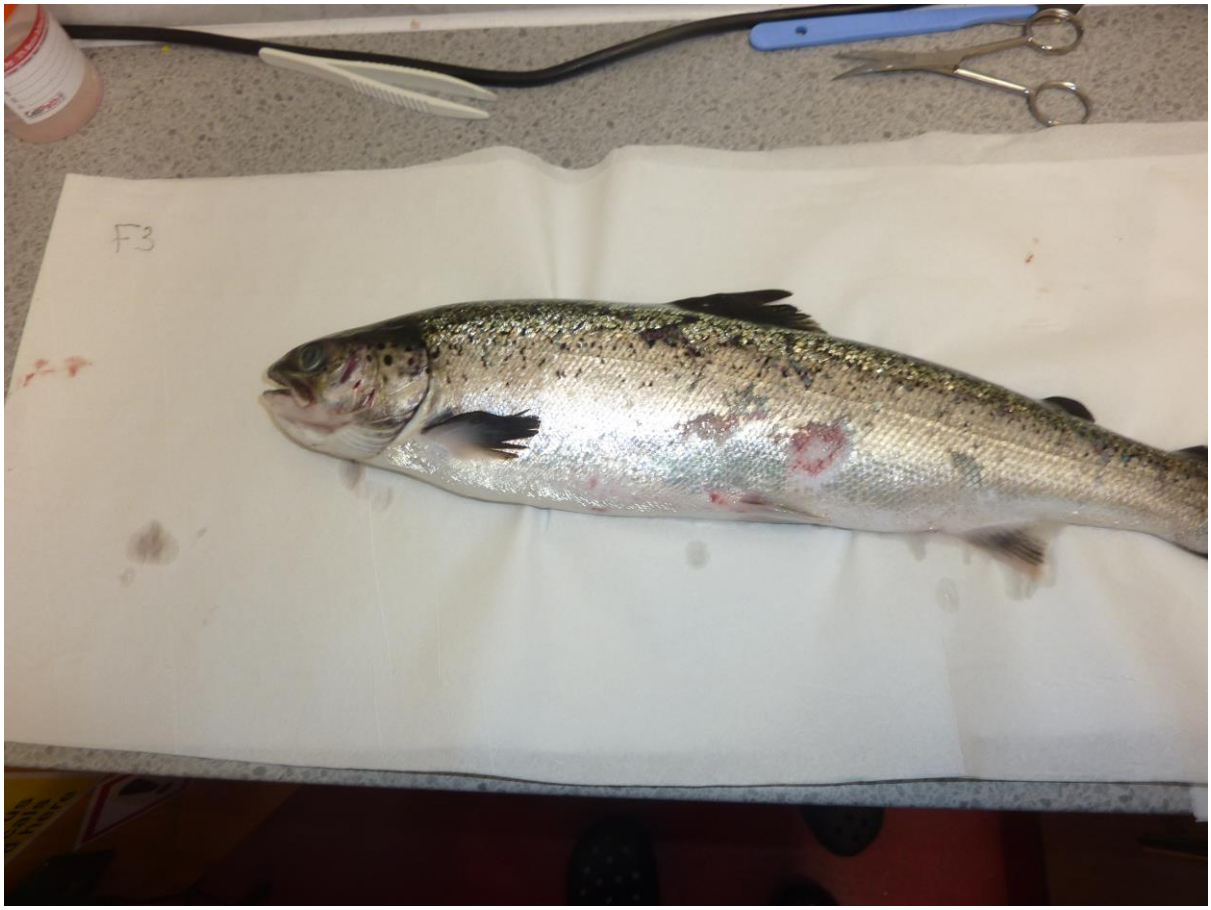
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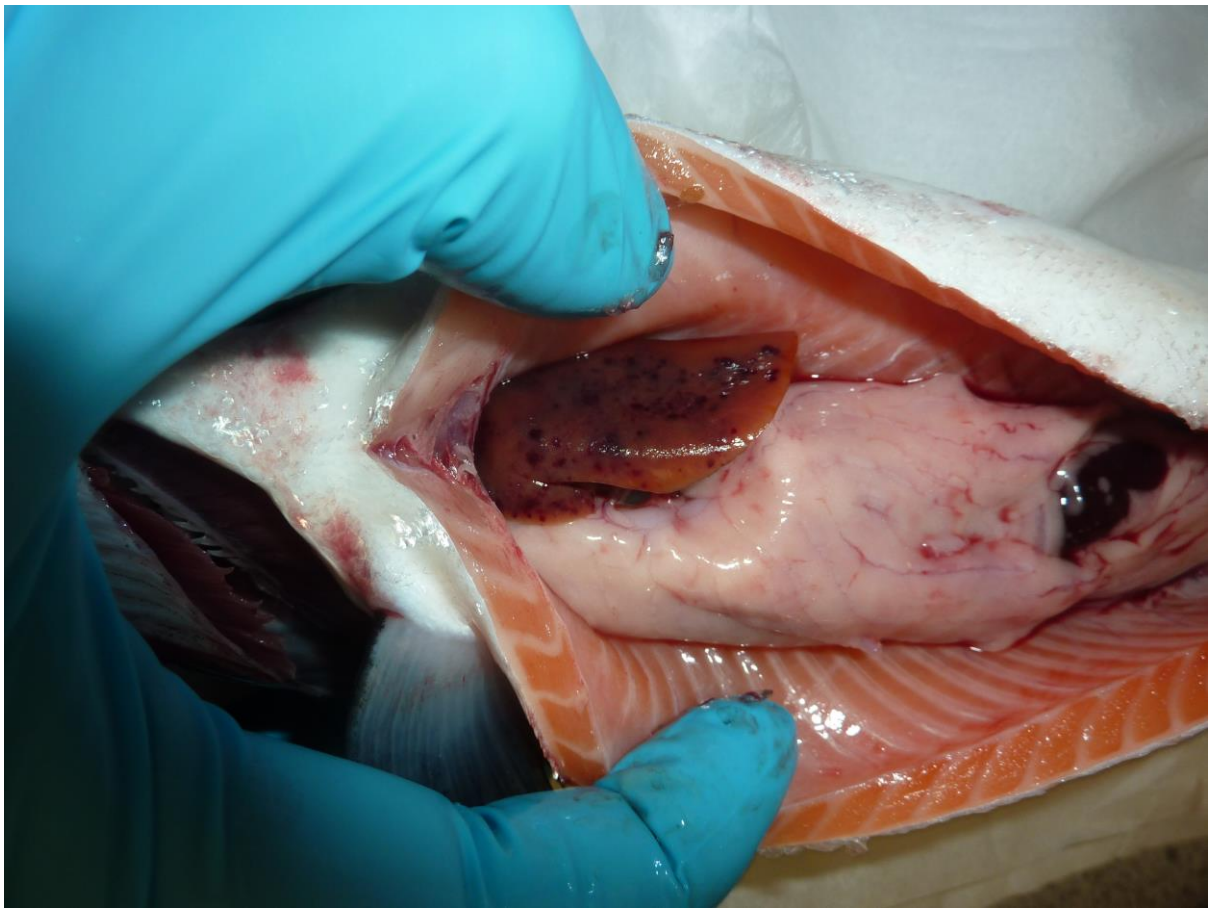


F4


F4

Case No: 2022-0544 Date of visit: 08/11/2022

Time spent on site: 2.5 Hours Main Inspector: [redacted]

Site No: FS0907 Site Name: Loch na Thull
Business No: FB0398 Business Name: Loch Duart Ltd

Case Types: 1 ECI 2 CNI 3 4 5 6

Water Temp (°C): 9.06 Thermometer No: T309 FHI 045 completed

Observations: Region: HI Water type: F CoGP MA

Dead/weak/abnormally behaving fish present?	N	If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?	N	If yes, see additional information/clinical score sheet.
Gross pathology observed?	N	If yes, see additional information/clinical score sheet.
Diagnostic samples taken?	N	

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

Site inspection and paper work conducted by [redacted], supervised by [redacted].

Site recently stocked with fish from Duartmore Hatchery on 28th October.

Fish have had a successful input, mortality across the site is low and the fish have taken to their feed well. Upon physical inspection of the site, fish were observed shoaling well and responding positively to routine feeding operations. No clinical signs of disease observed.

Historically the site has experienced some predation from cormorants, scare scrows have been installed on site to try mitigate future predation.

Case No: 2022-0544 Site No: FS0907

Date of Visit: 08/11/2022 Inspector(s): [redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities	6	Facilities stocked	6	No facilities inspected	6		
Species	SAL						
Age group	2023						
No Fish	180,960						
Mean Fish Wt	79g						
Next Fallow Date (Site)	March 2023	Next Input Date (Site)	October 2023				
Recent (last 4 wks) disease problems?	N	Any escapes (since last visit)?	N				
If yes, detail:							

Movement Records

1. Movement records available for inspection?	Y
2. Date of last inspection:	09/12/2019
3. Are records complete and correctly entered?	N
4. Are movement records available for dead fish and waste?	Y
5. Are records complete and correctly entered?	Y
6. Are health certificates for introductions (outwith GB) available?	N/A

Transport Records

1. Are any movements carried out by (or on behalf) of the business (not using a STB)?	Y
If yes, is there a system in place for maintenance of transportation records?	Y

Mortality Records

1. Mortality records available for inspection?	Y
2. How are mortalities disposed of?	Other (detail)
If other detail:	Whole fish waste collection point at Badcall office.
3. Mortality records complete and correctly entered?	Y
4. Recent mortality (last 4 wks):	Week 44 (24, 0.01%) Fish input 28/10/2022
5. Evidence of recent increased/atypical mortalities?	N
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
6. Any other peaks in mortality during period checked?	N
If yes, detail:	
7. Have increased (unexplained) mortalities been reported to vet or FHI?	N/A
If yes, detail action:	
8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.	N/A

Treatments and Medicines Records

1. Recent treatments (see comment)?	N
If yes, detail:	
If other, detail:	
2. Medicines records available for inspection?	Y
3. Are records complete and correctly entered?	Y
4. Are fish in a withdrawal period?	N
5. If yes, what treatment(s)?	
If other, detail:	
6. Are medicines stored appropriately?	Y

Biosecurity Records

1. Biosecurity records available for inspection?	Y
2. Has the manner and frequency of mortality removal, recording 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)* mortality at the site been included?	Y
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	Y
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	Y
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	Y
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	Y
8. Have the biosecurity procedures been adequately implemented on site?	Y
If no, detail:	

Results of Surveillance

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

Records checked between:	09/12/2019 - 07/11/2022

Case Number:	2022-0544		Site No:	FS0907	Insp:	
Date of Visit	08/11/2022					

		No of movements/supp./dest.				Score
Live fish movements		**0**	**1-5**	**6-10**	**>10**	
Movements on (from out with GB) of susceptible species	Frequency of movements on from equivalent MS	0	5	10	14	0
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26	0
	Number of suppliers	0	5	10	14	0
Movements off	Frequency of movements off	0	3	6	10	3
	Number of destinations	0	3	6	10	3
Exposure via water	**Site contacts**	**0**	**1-5**	**6-10**		
Water contacts with other farms (holding species susceptible to same diseases)	Farm is protected (secure water supply through disinfection or borehole)	0				
	Farm is on-line or in a coastal zone with category I farms upstream or within 1 tidal excursion	1	2	4		1
	Farm is on-line or in a coastal zone with category III farms upstream or within 1 tidal excursion	1	3	6		
	Farm is on-line or in a coastal zone with category V farms upstream or within 1 tidal excursion	1	4	8		
Management practices		None	Secure	Unsecure		
Water contacts with processors	Any processing plant discharging into adjacent waters	0	1	2		0
On farm processing within the rules of the directive	No on farm processing	0				0
	Processing own fish (re-cycling risk)	1				
	Processing fish from MS of equivalent status	2				
	Processing fish from zone or compartment of equivalent status	4				
	Processing fish from Category III farm	8				
	Processing fish from Category V farm	10				
Disposal of fish and fish by-products	Site's own waste only processed.	0				
	Common processes with other farms	3				3
	Collection point for waste from other farms	5				
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0
	Feeding unpasteurised feed	5				
Biosecurity	**Number of sites**	**1**	**2 or 3**	**≥ 4**		
Contacts with other sites	Sites operating from single shorebase	0	1	2		1
	Sites sharing staff and equipment	0	1	2		1
Disinfection of equipment between sites, use of footbaths etc	Yes	0				
	No	1				1
CoGP/Regulator						
Practices in accordance with regulator or industry code of practice	Yes	0				0
	No	3				
Platform access to cages	Yes	0				0
	No	2				
				Total		13
				Rank		LOW

Case No: 2022-0544 Site No: FS0907

Sea Lice Inspection (Seawater Sites Only)

1. Has the site experienced sea lice problems in the previous 4 years?	
2. Is the CoGP Farm Management Area (or equivalent) fallowed synchronously on a single year class basis?	
3. Does the site have access to a range of licenced in-feed and bath sea lice medications (including deltamethrin, azamethiphos and emamectin benzoate) as well as access to suitable biological and/or mechanical control measures, and can these be deployed in a reasonable period of time?	
4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equivalent)?	
5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6)	
6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6)	
7. Are sea lice (*L. salmonis*) record levels below the suggested criteria for treatment in the CoGP during the period that records are inspected? (CoGP Annex 6)	
8. Have average adult female sea lice (*L. salmonis*) numbers per fish been at a level of 3 or above (prior to w/b 10/6/19) or 2 or above (from w/b 10/6/19) during the period that records are inspected?	
If yes, have these been reported to the Fish Health Inspectorate? If no, FHI see comment.	
9. Is *C. elongatus* infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50)	
10. Have therapeutic treatments been administered or other actions taken when *L. salmonis levels* have exceeded the suggested criteria for treatment or where *C. elongatus* is considered to have welfare implications? (CoGP 4.3.82, 5.3.51)	
11. Has any other action been taken (where applicable)?	
12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded?	
13. Are treatments, where conducted, carried out in cooperation between participating farms?	
14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for sea lice?	
15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during the escalation of a sea lice infestation?	
16. Do the sea lice levels observed on stocks reflect sea lice count data? If no please detail reasons.	

Containment Inspection

1. Has the site experienced equipment damage due to predators in the current or previous production cycles?	N
2. Are measures in place to mitigate against the predation experienced on site? (Detail below)	Y

Top nets Scare Crows

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?	N
If Yes proceed with questions 4 – 9. If No skip to question 10	
4. Have these been reported to Scottish Ministers?	
5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)	
6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)	
7. Were methods (if any) used to recover escapees? If yes give detail	
8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, CoGP – 4.4.38, 5.4.18)	
9. What action was taken to prevent and minimise the risk of further escapes? (Not covered in code but could be considered under satisfactory measures of the Act)	
10. Is the site inspected as satisfactory with regards to containment? If no, please detail reason(s)	Y

Case No: 2022-0544 Date of visit: 08/11/2022

Site No: FS0907 Inspector:

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp

Report Summary			
Case Type	Date	Insp	2nd Insp
ECI, CNI	26/01/2023		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0398	**DATE OF VISIT**	08/11/2022
SITE NO	FS0907	**SITE NAME**	Loch na Thull
CASE NO	20220544	**INSPECTOR**	[redacted]

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected in accordance with the Aquatic Animal Health (Scotland) Regulations 2009.

All epidemiological units were inspected. On this occasion no samples were taken for disease analysis. The Inspector did not observe any clinical signs associated with the listed diseases as described in the Aquatic Animal Health (Scotland) Regulations 2009.

Records

The surveillance frequency category of the site was assessed as low. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted every third 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 inadequately 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.

No mortality levels exceeding the reporting criteria have been recorded since the last inspection.

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.

The following points were raised with the site representative during the inspection:

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Email – ms.fishhealth@gov.scot
Website - https://www.gov.scot/policies/fish-health-inspectorate/

FS numbers not recorded in the movement book, site manager has agreed that this will be done in future.

Inspection under the Aquaculture and Fisheries (Scotland) Act 2007

The site was also inspected in accordance with the Aquaculture and Fisheries (Scotland) Act 2007 with respect to section 5 regarding containment and escapes.

On this occasion the site was found to be satisfactory.

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

Signed: [redacted] Date: 26/01/2023

Fish Health Inspector

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

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Email – ms.fishhealth@gov.scot
Website - https://www.gov.scot/policies/fish-health-inspectorate/

Case No: 2022-0549 Date of visit: 09/11/2022

Time spent on site: 2 hours Main Inspector: [redacted]

Site No: FS0336 Site Name: Druimyeon Bay
Business No: FB0169 Business Name: Bakkafrost Scotland

Case Types: 1 REP 2 DIA 3 4 5 6

Water Temp (°C): 12.9 Thermometer No: Site FHI 045 completed Y

Observations: Region: ST Water type: S CoGP MA: M-46

Dead/weak/abnormally behaving fish present?	Y	If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?	Y	If yes, see additional information/clinical score sheet.
Gross pathology observed?	Y	If yes, see additional information/clinical score sheet.
Diagnostic samples taken?	Y	

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

Mort events; 26/9 3.82% 25213 fish; 3/10 9.66% 61355 fish; 10/10 7.19% 55650 fish; 17/10 7.58% 54440 fish

Site inspected on the 17/8/2022 (case no. 2022-0362). Mortality occurring from compromised gill health and PD. The site freshwater treated and the fish are responding well. Mortality is beginning to decrease. FHI to monitor.

Freshwater treatment scheduled for week 44

wk. 24/10/22 8.99% - gill issues, viral (PD) and rickettsia

Morts/site week 44 2022 8.46%, week 45 2022 14.96%
Wrasse mortality reported to be low.
Treatments; freshwater on Ronjafisk 13/9, 14/9, 8/10, 4/11

Health surveillance results; SRS, SAV, PRV and AGD positive by PCR 24/10/22, AGD, PRV, SAV, SRS and T maritimum positive by PCR 4/11/22

Poor weather meant I was only able alight 1 cage. However was able to get moribund fish from this cage.

Site thermometer used as error in T146

Case No:	2022-0549	Site No:	FS0336
Date of Visit:	09/11/2022	Inspector(s):	[redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities		12	Facilities stocked		12	No facilities inspected		1
Species	Sal	wrasse						
Age group	22 Q2& Q3	wild caught						
No Fish	534,799	not collected						
Mean Fish Wt	406g	mixed						
Next Fallow Date (Site)		May 2024		Next Input Date (Site)		Sept 2024		
Recent (last 4 wks) disease problems?				Y	Any escapes (since last visit)?			N
If yes, detail:	SRS AGD							

Movement Records

1. Movement records available for inspection?	Y
2. Date of last inspection:	17/08/2022
3. Are records complete and correctly entered?	Y
4. Are movement records available for dead fish and waste?	Y
5. Are records complete and correctly entered?	Y
6. Are health certificates for introductions (outwith GB) available?	N/A

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?	Y
2. How are mortalities disposed of?	Biogas - Barkip
If other detail:	
3. Mortality records complete and correctly entered?	Y
4. Recent mortality (last 4 wks):	weeks 2022; 42;7.58%. 43; 8.99%, 44; 8.46%, 45 14.96%
5. Evidence of recent increased/atypical mortalities?	Y
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
accrosss site Gill issues, PD and SRS	
6. Any other peaks in mortality during period checked?	Y
If yes, detail:	Gill issues, PD and SRS across site
7. Have increased (unexplained) mortalities been reported to vet or FHI?	Y
If yes, detail action:	FW treatments for AGD
8. 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)?	N
If yes, detail:	
If other, detail:	
2. Medicines records available for inspection?	Y
3. Are records complete and correctly entered?	Y
4. Are fish in a withdrawal period?	N
5. If yes, what treatment(s)?	
If other, detail:	
6. Are medicines stored appropriately?	Y

Biosecurity Records

1. Biosecurity records available for inspection?	
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	
3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any *increased* (*unexplained)* mortality at the site been included?	
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	
8. Have the biosecurity procedures been adequately implemented on site?	
If no, detail:	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	Y
2. If yes, are results available for inspection?	Y
3. Any significant results?	Y
If yes, detail (if not detailed under recent disease problems).	

Histo 3/11/22 - SAV, gill pathology likely AGD and environmental; Histo 18/10 systemic infection rickettsia like organism, AGD, SAV, environmental gill pathology. 24/10/22 Histo AGD. PCR results 24.10.22 positive for AGD- PRV1,HSMI- SAV-Piscirikettsia

Records checked between:	17/8/22- 9/11/22

Case no:	2022-0549	Site No:	FS0336	Date of visit/ Sampling:	09/11/2022	09/1							
Priority samples:	VI		BA		PA		MG		HI				
Time sampling starts/ends:	01:00:00	02:00:00	Inspector:		VMD No.	0							
Environmental conditions:	1	Indoors	2		3		4		5				
Summary samples	HIST	Y	BA	Y	MG	Y	VI		PA		Total Samples		

Add Fish/Pools - click

	Pool/Fish No	F1	F2	F3	F4	F5	P1						
	Fish nos	1	2	3	4	5	1-5						
	Pool Group	P1	P1	P1	P1	P1							
Stock Details	Species	SAL	SAL	SAL	SAL	SAL	SAL						
	Average weight	400g	400g	400g	400g	400g	400g						
	Sex												
	Water Type	SW	SW	SW	SW	SW	SW						
	Stock Origin	Applecross Hatchery	Applecross Hatchery	Applecross Hatchery	Applecross Hatchery	Applecross Hatchery	Applecross Hatchery						
	Facility No	10	10	10	10	10	10						

11/2022 Additional Sample Information:

6 Total Tests assigned 5

Case no: 2022-0549 Site No: FS0336 Method of killing: Percussive

Date of visit: 09/11/2022 Inspector(s): [redacted] Sheet Relevant: Y

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

Fish Number		1	2	3	4	5					
Time sampled after death (if > 45 minutes)											
External Signs											
Behaviour	Moribund	S	S	S	S	S					
	Lethargic	S	S	S	S	S					
	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		M								
	Elsewhere										
Vent	Inflamed										
	Trailing faeces										
Lice Load	Estimate numbers	0	0	0	0	0					
Internal Signs											
Ascites	Clear										
	Bloody										
Oedema	In tissues										
Heart	Pale/anaemic										
	Granulomas										
	Deformed										
Liver	Petechial haem										
	Gross haem										
	Tissue breakdown										
	Enlarged										
	Colour number(s)	1	1	1	1	1					
	Granulomas										
	Lesions										
Pyloric caeca	Petechial haem										
	Tubules mauve										
	Lack of fat										
Spleen	Enlarged		S								
	Granulomas										
Gut	No food present	S	S		S	S					
	Yellow pseudo-faeces										
	External haem										
	Internal haem										
Body wall	Haemorrhaging										
Swim bladder	Haemorrhaging										
	Fluid filled										
Kidney	Swollen										
	Grey										
	Granular										
	Liquefied										
General	Parasites present										
	Anaemia				S						

Case no: 2022-0549

Date of visit: 09/11/2022

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

Fish Number											
Time sampled after death (if > 45 minutes)											
External Signs											
Behaviour	**Moribund**										
	Lethargic										
	Hanging vertical										
	Spiralling										
	Flashing										
	Loss of equilibrium										
Body	**Dark**										
	Distended abdomen										
	Anorexic										
	Scale Oedema										
Opercula	**Shortened**										
	Flared										
Haemorrhaging	**Throat**										
	Ventrum										
	Base of fins										
	Elsewhere										
Eyes	**Exophthalmic**										
	Enophthalmic (sunken)										
	Cataract										
	Haemorrhagic										
Gills	**Pale**										
	Zoned										
	Necrotic										
Lesions	**Flank**										
	Elsewhere										
Vent	**Inflamed**										
	Trailing faeces										
Lice Load	**Estimate numbers**										
Internal Signs											
Ascites	**Clear**										
	Bloody										
Oedema	**In tissues**										
Heart	**Pale/anaemic**										
	Granulomas										
	Deformed										
Liver	**Petechial haem**										
	Gross haem										
	Tissue breakdown										
	Enlarged										
	Colour number(s)										
	Granulomas										
	Lesions										
Pyloric caeca	**Petechial haem**										
	Tubules mauve										
	Lack of fat										
Spleen	**Enlarged**										
	Granulomas										
Gut	**No food present**										
	Yellow pseudo-faeces										
	External haem										
	Internal haem										
Body wall	**Haemorrhaging**										
Swim bladder	**Haemorrhaging**										
	Fluid filled										
Kidney	**Swollen**										
	Grey										
	Granular										
	Liquefied										
General	**Parasites present**										
	Anaemia										

Additional comments:

F1- adhesions in body cavity, F2 enlarged gall bladder, F4 - white faecal casts

Case No: 2022-0549 Date of visit: 09/11/2022

Site No: FS0336 Inspector: [redacted]

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp
MG IHN	0/2	22/11/2022				24/01/2022		
MG Para ther	5/5	22/11/2022		22/11/2022		24/01/2022		
MG IPN	1/2	22/11/2022		22/11/2022		24/01/2022		
MG ISA	0/2	22/11/2022				24/01/2022		
MG Pisci	5/5	22/11/2022		22/11/2022		24/01/2022		
MG PMCV	0/2	22/11/2022				24/01/2022		
MG SAV	1/2	22/11/2022		22/11/2022		24/01/2022		
MG VHS	0/2	22/11/2022				24/01/2022		
MG AGD	5/5	22/11/2022		22/11/2022		24/01/2022		
MG Sal pox	5/5	22/11/2022		22/11/2022		24/01/2022		
VSPE	2/5	25/11/2022				24/01/2022		
GPAT	5/5	01/12/2022				24/01/2022		
CGDH	5/5	01/12/2022				24/01/2022		
EPIT	5/5	01/12/2022				24/01/2022		
KPAT	3/5	01/12/2022				24/01/2022		
PISH	3/5	01/12/2022				24/01/2022		
SPAT	3/5	01/12/2022				24/01/2022		
SALH	1/5	01/12/2022				24/01/2022		
V IHN	0/3	01/12/2022				24/01/2022		
V VHS	0/3	01/12/2022				24/01/2022		
V IPN	1/3	09/01/2023				24/01/2022		
V SAV	0/3	09/01/2023				24/01/2022		
V ISA	0/3	09/01/2023				24/01/2022		

Report Summary			
Case Type	Date	Insp	2nd Insp
Diag, Rep	24/01/2022		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0169	**DATE OF VISIT**	09/11/2022
SITE NO	FS0336	**SITE NAME**	Druimyeon Bay
CASE NO	20220549	**INSPECTOR**	[redacted]

Section 1: Summary

Druimyeon Bay was inspected following reports of increased mortality by the farm operator. During the inspection moribund fish were observed and five fish were removed for diagnostic sampling.

Histopathology examination revealed mixed and complex pathology. There were pathology consistent with salmonid rickettsial septicaemia (SRS). This was confirmed by qPCR in all five fish tested. Gills displayed multifocal, mild, hyperplasic branchitis associated with complex gill issues. Lesions could also be associated with environmental factors. Epitheliocystis (likely *Brachiomonas* sp.) was also observed. All fish were confirmed positive by qPCR for *Neoparamoeba perurans* (amoebic gill disease), *Paranucleospora theridion* and salmon gill poxvirus. F2 displayed absence of pancreatic acinar tissue. This could be associated with the presence of salmon alphavirus. This was confirmed by qPCR.

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 had been experiencing on-going increased mortalities since August 2022. The inspectorate has previously visited on 17th August 2022, but mortality issues have persisted and have been further increasing. The reported moralities are attributed to gill health issues, viral disease (salmonid alphavirus) and bacteria disease (*Piscirickettsia salmonis)*. On the day of the inspection adverse weather and sea condition resulted in only 1 of the 12 stocked pens being able to be inspected. However, moribund fish were observed at the pen margins and five were remove for diagnostic examination.

Externally fish F2 had an area of skin haemorrhaging, about the size of a 20p piece located on the flank above the pelvic fin of F3. Fish F2 had an enlarged spleen and adhesions were observed in the body cavity of F1.

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science

Samples

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

Fish number	Facility number	Species	Stage	Origin
1-5	10	Atlantic salmon	400g - 2022 Q2 &Q3	Applecross Hatchery

Results

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

The following bacteria were isolated;

- *Vibrio* sp. (Isolate a): F2 (Kidney); *Vibrio* sp. (Isolate b): F1 (Kidney); F2 (Kidney, Lesion);

The level and purity of growth would not suggest it is implicated in fish morbidity.

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

Piscirickettsia salmonis.

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.7	21.78	21.83	21.75	POSITIVE
F2	21.15	23.97	24.09	24.07	POSITIVE
F3	21.05	36.12	36.6	36.85	POSITIVE
F4	21.09	19.02	19.28	19.15	POSITIVE
F5	20.45	28.79	28.77	28.23	POSITIVE

DNA sequence analysis was performed on kidney samples. The results confirmed the QPCR positive amplification of *Piscirickettsia salmonis*.

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

Salmon gill poxvirus

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.06	28.55	28.35	28.54	POSITIVE
F2	21.13	23.62	23.86	23.78	POSITIVE
F3	20.99	31.86	31.72	31.76	POSITIVE
F4	21.62	25.09	25.09	24.91	POSITIVE
F5	21.13	26.95	26.93	27.08	POSITIVE

Infectious Pancreatic Necrosis

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1					No result
F2					Negative
F3	19.09	35.47	35.59	35.98	POSITIVE
F4					No result
F5					No result

Salmonid alphavirus

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1					No result
F2	19.32	27.69	27.69	27.67	POSITIVE
F3					Negative
F4					No result
F5					No result

From the samples tested by qPCR, F2 and F3 tested negative for infectious haematopoietic necrosis virus (IHNV), piscine myocarditis virus (PMCV), infectious salmon anaemia virus (ISAV), and viral haemorrhagic septicemia virus (VHSV). The other three fish were also tested but have been reported as “no result”.

The samples were also tested for infectious pancreatic necrosis virus (IPNV) and salmonid alphavirus (SAV) by qPCR. F3 tested positive for IPN and F2 tested positive for SAV. There were no results for the other three fish.

The three samples which presented no results by qPCR were run by cell culture for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), viral haemorrhagic septicemia virus (VHSV), Infectious pancreatic necrosis virus (IPNV) and Salmonid alphavirus (SAV). Fish, F4 tested positive for IPN. All other cell culture tests were negative.

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

Neoparamoeba perurans (AGD)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.06	31.51	31.34	31.29	POSITIVE
F2	21.13	33.64	33.52	33.77	POSITIVE
F3	20.99	34.21	34.47	34.46	POSITIVE
F4	21.62	32.08	32.05	32.2	POSITIVE
F5	21.13	32.68	32.86	32.58	POSITIVE

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	21.06	22.94	22.87	22.96	POSITIVE

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science

F2	21.13	22.78	22.73	22.7	POSITIVE
F3	20.99	26.94	26.99	27.12	POSITIVE
F4	21.62	21.94	22.04	21.85	POSITIVE
F5	21.13	22.03	22.04	22.27	POSITIVE

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

Histopathological examination revealed the following:

Gill: Filament hyperplasia and lamellar fusion mild to some, multifocal (F1, F3). Few basophilic epithelial inclusions (likely epitheliocystis) (F1-F5). Filament necrosis and branchitis and presence of few round blue structures resembling bacteria (likely *Piscirickettsia* sp.). F4 displayed a small area of necrosis with mixed bacteria associated (F1). Lamellar telangiectasia with multifocal thrombosis and free blood among gill filaments (F2). F5 displayed some autolysis artefacts.

Skin & Muscle: Partial absence of epidermal layer and mild inflammatory cell infiltration (F2).

Heart: Mild, multifocal myocarditis (F2, F5). Mild epicarditis (F2, F3, F5). F2: no atrium.

Gut and pyloric caeca: Peritonitis, mild, multifocal (F1, F2, F3, F5) and presence of some to few round blue structures resembling bacteria (likely *Piscirickettsia* sp.) (F1, F5).

Pancreas: Almost no pancreatic acinar tissue (F2).

Liver: Some cuffing (F2), hepatocellular necrosis, minimal, focal (F4, F5).

Kidney: Interstitial cell (haemopoietic) necrosis and cellular vacuolation mild to marked, multifocal (F1, F4 & F5) and few intracellular round blue structures resembling bacteria (likely *Piscirickettsia* sp.) (F1, F4 & F5), these bacteria stain Gram-negative and Giemsa positive.

Spleen: Necrosis, multifocal, mild and few intracellular round blue structures resembling bacteria (likely *Piscirickettsia* sp.) (F1, F4), these bacteria stain Gram-negative and Giemsa positive. Some cuffing (F2). Capsulitis, mild, multifocal (F2). Slightly congested F1.

Signed:  Date: 24/01/2023

Fish Health Inspector

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

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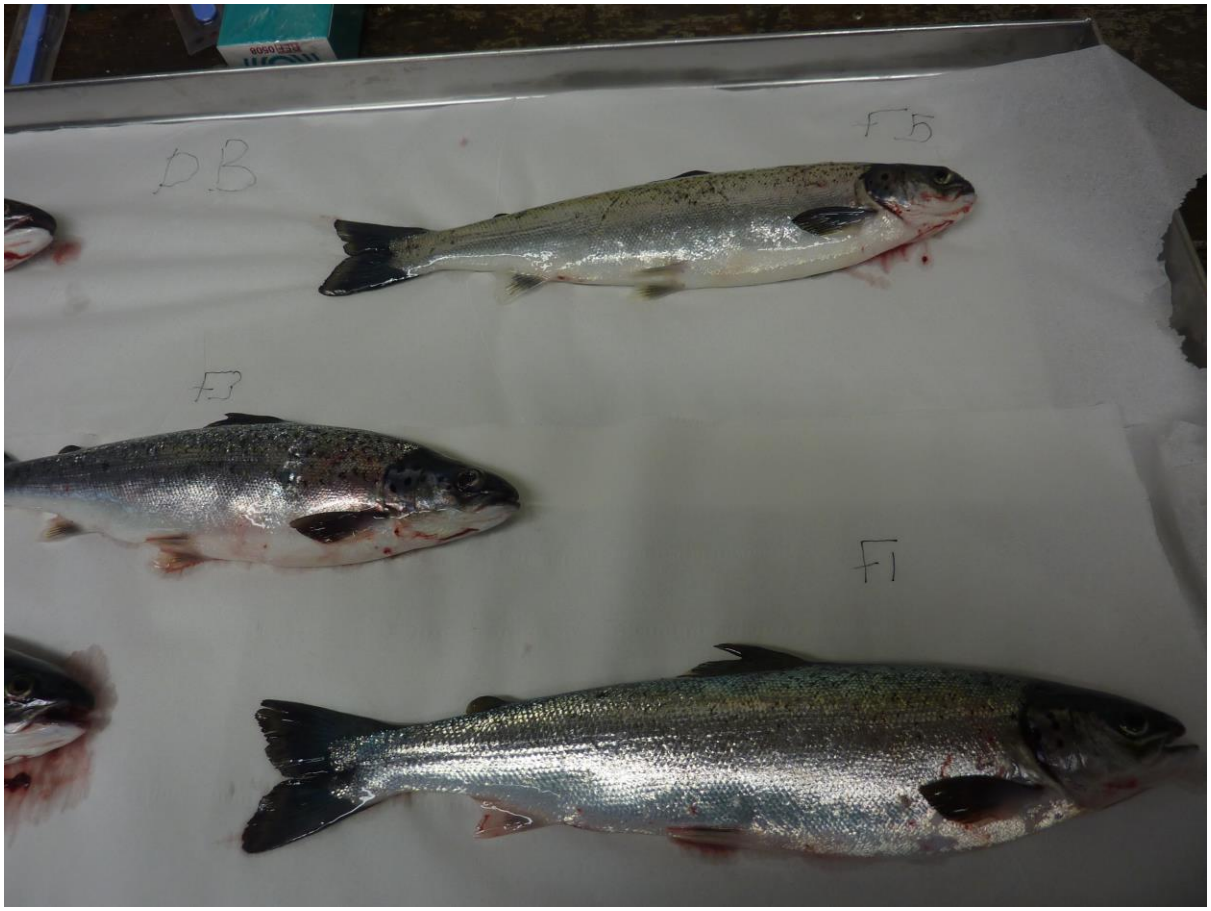
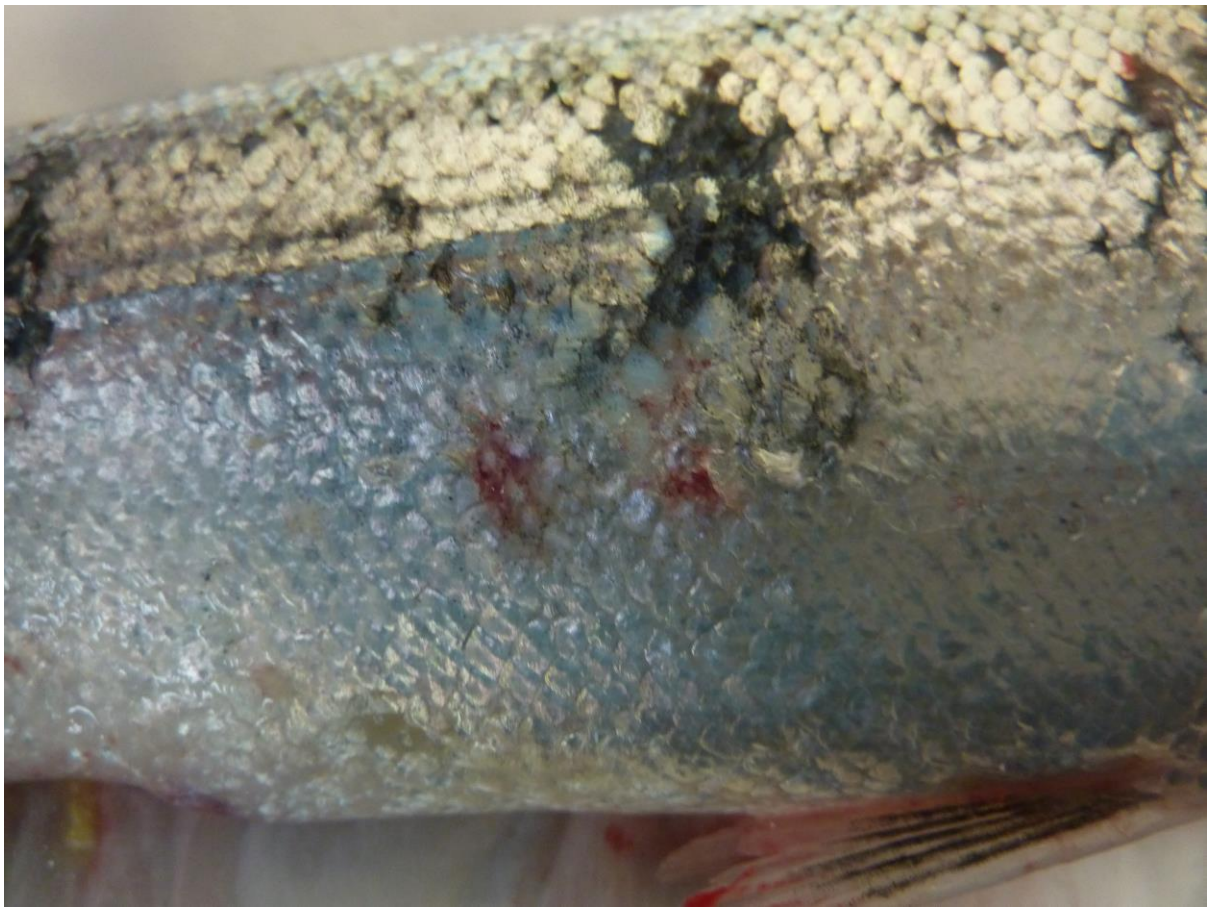
Website - www.gov.scot/Topics/marine/science


F4
DB
F5
F3
F2
F1


F4
DB
F3
F2


F5
D.B
F3
F1



Case No: 2022-0582 Date of visit: 21/11/2022

Time spent on site: 10 minutes Main Inspector: [redacted]

Site No: SS0663 Site Name: South Voe Burra
Business No: SB0396 Business Name: Olnafirth Sea Farm Ltd

Case Types: 1 ECI 2 3 4 5 6

Water Temp (°C): 7.47 Thermometer No: T310 FHI 045 completed

Observations: Region: SH Water type: S CoGP MA

Dead/weak/abnormally behaving fish present?	N	If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?	N	If yes, see additional information/clinical score sheet.
Gross pathology observed?	N	If yes, see additional information/clinical score sheet.
Diagnostic samples taken?	N	

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

Number of facilities changed - now only 1 x 22m and 2 x 220m lines.

Mussels had very little fallowing.

Site inspection and paperwork done by [redacted], supervised by [redacted]

Case No: 2022-0582 Site No: SS0663

Date of Visit: 21/11/2022 Inspector(s): [redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities	3	Facilities stocked	3	No facilities inspected	3		
Species	Mussels						
Age group	2020						
No Fish	3 lines						
Mean Fish Wt	20 tonnes overall						
Next Fallow Date (Site)	November 2023	Next Input Date (Site)	Spring 2024				
Recent (last 4 wks) disease problems?	N	Any escapes (since last visit)?	N				
If yes, detail:							

Movement Records

1. Movement records available for inspection?	Y
2. Date of last inspection:	23/11/2021
3. Are records complete and correctly entered?	N/A
4. Are movement records available for dead fish and waste?	N/A
5. Are records complete and correctly entered?	N/A
6. Are health certificates for introductions (outwith GB) available?	N/A

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?	N/A
2. How are mortalities disposed of?	Other (detail)
If other detail:	Fall to seabed
3. Mortality records complete and correctly entered?	N/A
4. Recent mortality (last 4 wks):	No observed mortality
5. Evidence of recent increased/atypical mortalities?	N/A
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
6. Any other peaks in mortality during period checked?	N/A
If yes, detail:	
7. Have increased (unexplained) mortalities been reported to vet or FHI?	N/A
If yes, detail action:	
8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.	N/A

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?	Y
2. Has the manner and frequency of mortality removal, recording 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)* mortality at the site been included?	Y
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	Y
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	Y
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	Y
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	N/A
8. Have the biosecurity procedures been adequately implemented on site?	Y
If no, detail:	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	N
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:	23/11/2021 - 21/11/2022

Case Number:	2022-0582	Site No:	SS0663
Date of Visit	21/11/2022	Inspector:	[redacted]

Number of Susceptible species on site

If no susceptible species present = **LOW** risk

If susceptible species present, score for each pathogen

	No	Yes	
Susceptible to Bonamia ostrea (OED)	0	25	0
Susceptible to Marteilia refringens (OED, MED)	0	3	3
Susceptible to OsHV (CGI)	0	3	0

Sites within a tidal excursion		**1**	**2-5**	**>6**	
Site contacts	Number of sites holding susceptible species within a tidal excursion	0	2	10	10

Live shellfish movements		**0**	**1-2**	**>3**	
Movements on	Frequency of movements on from equivalent MS	0	5	10	0
	Frequency of movements on from equivalent zone or compartment including third country	0	10	20	0
	Number of suppliers	0	5	10	0
Movements off	Frequency of movements off within MSS Management Areas	0	1	2	0
	Frequency of movements off outwith MSS Management Areas	0	3	6	0
	Number of destinations	0	3	6	0

Management practices		**None**	**Secure (effluent treatment)**	**Unsecure (no effluent treatment)**	
Water contacts with depuration facilities	Depuration of stock from own sites within MSS management area	0	1	2	0
	Depuration of stock from other businesses sites within MSS management area	0	2	6	0
	Depuration of stock from sites outwith MSS management area	0	4	8	0

Biosecurity	**Number of sites**	**1**	**2 or 3**	**≥ 4**	
Contacts with other sites	Sites operating from single shorebase	0	1	2	0
	Sites sharing staff and equipment	0	1	5	1
			Yes	**No**	
	Disinfection of equipment between sites, use of footbaths etc		0	2	2

Total	**16**
Risk	**MEDIUM**

Case No: 2022-0582 Date of visit: 21/11/2022

Site No: SS0663 Inspector:

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp

Report Summary			
Case Type	Date	Insp	2nd Insp
ECI	26/01/2023		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	SB0396	**DATE OF VISIT**	21/11/2022
SITE NO	SS0663	**SITE NAME**	South Voe Burra
CASE NO	20220582	**INSPECTOR**	[redacted]

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009.

All epidemiological units were inspected. On this occasion no samples were taken for disease analysis. The Inspector did not observe any clinical signs associated with the listed diseases as described in the Aquatic Animal Health (Scotland) Regulations 2009.

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.

No mortality had been observed on site since the last inspection by Marine Scotland.

No animal health surveillance had been carried out on behalf of the business and/or Marine Scotland since the last Marine Scotland Inspection.

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

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

Signed: [redacted] Date: 26/01/2023

Fish Health Inspector

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Email – ms.fishhealth@gov.scot
Website - https://www.gov.scot/policies/fish-health-inspectorate/

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Website - https://www.gov.scot/policies/fish-health-inspectorate/

Case No: 2022-0583 Date of visit: 21/11/2022

Time spent on site: 10 minutes Main Inspector: [redacted]

Site No: SS0658 Site Name: South of Houss Holm
Business No: SB0424 Business Name: George Duncan (Shellfish) Ltd

Case Types: 1 ECI 2 3 4 5 6

Water Temp (°C): 8.12 Thermometer No: T310 FHI 045 completed

Observations: Region: SH Water type: S CoGP MA

Dead/weak/abnormally behaving fish present?	N	If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?	N	If yes, see additional information/clinical score sheet.
Gross pathology observed?	N	If yes, see additional information/clinical score sheet.
Diagnostic samples taken?	N	

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

No movements on or off site since last visit. Natural spatfall, same yearclass. Larger mussels will be harvested next year.

Mussels had very little fouling.

Site inspection and paperwork carried out by [redacted], supervised by [redacted].

Case No: 2022-0583 Site No: SS0658

Date of Visit: 21/11/2022 Inspector(s): [redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities	3	Facilities stocked	3	No facilities inspected	3		
Species	MED						
Age group	2019						
No Fish	3 lines						
Mean Fish Wt	40-50mm						
Next Fallow Date (Site)	Continuous	Next Input Date (Site)	Spring 2023				
Recent (last 4 wks) disease problems?	N	Any escapes (since last visit)?	N				
If yes, detail:							

Movement Records

1. Movement records available for inspection?	Y
2. Date of last inspection:	01/10/2018
3. Are records complete and correctly entered?	Y
4. Are movement records available for dead fish and waste?	N/A
5. Are records complete and correctly entered?	N/A
6. Are health certificates for introductions (outwith GB) available?	N/A

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?	N/A
2. How are mortalities disposed of?	Other (detail)
If other detail:	Fall to seabed
3. Mortality records complete and correctly entered?	N/A
4. Recent mortality (last 4 wks):	No observed mortality
5. Evidence of recent increased/atypical mortalities?	N/A
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
6. Any other peaks in mortality during period checked?	N/A
If yes, detail:	
7. Have increased (unexplained) mortalities been reported to vet or FHI?	N/A
If yes, detail action:	
8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.	N/A

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?	Y
2. Has the manner and frequency of mortality removal, recording 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)* mortality at the site been included?	Y
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	Y
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	Y
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	Y
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	N/A
8. Have the biosecurity procedures been adequately implemented on site?	Y
If no, detail:	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	N
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:	01/10/2018 - 21/11/2022

Case Number:	2022-0583	Site No:	SS0658
Date of Visit	21/11/2022	Inspector:	[redacted]

Number of Susceptible species on site

If no susceptible species present = **LOW** risk

If susceptible species present, score for each pathogen

	No	Yes	
Susceptible to Bonamia ostrea (OED)	0	25	0
Susceptible to Marteilia refringens (OED, MED)	0	3	3
Susceptible to OsHV (CGI)	0	3	0

Sites within a tidal excursion		**1**	**2-5**	**>6**	
Site contacts	Number of sites holding susceptible species within a tidal excursion	0	2	10	2

Live shellfish movements		**0**	**1-2**	**>3**	
Movements on	Frequency of movements on from equivalent MS	0	5	10	0
	Frequency of movements on from equivalent zone or compartment including third country	0	10	20	0
	Number of suppliers	0	5	10	0
Movements off	Frequency of movements off within MSS Management Areas	0	1	2	0
	Frequency of movements off outwith MSS Management Areas	0	3	6	0
	Number of destinations	0	3	6	0

Management practices		**None**	**Secure (effluent treatment)**	**Unsecure (no effluent treatment)**	
Water contacts with depuration facilities	Depuration of stock from own sites within MSS management area	0	1	2	0
	Depuration of stock from other businesses sites within MSS management area	0	2	6	0
	Depuration of stock from sites outwith MSS management area	0	4	8	0

Biosecurity	**Number of sites**	**1**	**2 or 3**	**≥ 4**	
Contacts with other sites	Sites operating from single shorebase	0	1	2	0
	Sites sharing staff and equipment	0	1	5	0
			Yes	**No**	
	Disinfection of equipment between sites, use of footbaths etc		0	2	2

Total	7
Risk	LOW

Case No: 2022-0583 Date of visit: 21/11/2022

Site No: SS0658 Inspector: [redacted]

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp

Report Summary			
Case Type	Date	Insp	2nd Insp
ECI	26/01/2023		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	SB0424	**DATE OF VISIT**	21/11/2022
SITE NO	SS0658	**SITE NAME**	South of Houss Holm
CASE NO	20220583	**INSPECTOR**	[redacted]

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009.

All epidemiological units were inspected. On this occasion no samples were taken for disease analysis. The Inspector did not observe any clinical signs associated with the listed diseases as described in the Aquatic Animal Health (Scotland) Regulations 2009.

Records

The surveillance frequency category of the site was assessed as low. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted every fourth 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.

No mortality had been observed on site since the last inspection by Marine Scotland.

No animal health surveillance had been carried out on behalf of the business and/or Marine Scotland since the last Marine Scotland Inspection.

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

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

Signed: [redacted] Date: 26/01/2023

R14

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Website - https://www.gov.scot/policies/fish-health-inspectorate/

Case No: 2022-0598 Date of visit: 23/11/2022

Time spent on site: 2 hours Main Inspector: [redacted]

Site No: FS1335 Site Name: Swarta Skerry, Dury Voe
Business No: FB0125 Business Name: Scottish Sea Farms Ltd

Case Types: 1 REG 2 UNI 3 4 5 6

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

Observations: Region: SH Water type: S CoGP MA S-5

Dead/weak/abnormally behaving fish present?		If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?		If yes, see additional information/clinical score sheet.
Gross pathology observed?		If yes, see additional information/clinical score sheet.
Diagnostic samples taken?		

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

Fish are taken whole by Henderson and transported to Pelagia for biogas generation.

Mortality has been ongoing since WK 34. It has been attributed to CMS and CGD.

Freshwater has been used to treat gills and lice, however recently the hydrolicer has been used to treat for sealice as the gills are compromised. Cages 6, 10 are worst affected by sealice (average across the site was ~2.71 WK 46) and have been scheduled to be harvested WK47, although this is dependant on weather.

WK43 - HydrL
WK45 - HydrL
WK34 Peroxide treatment, one cage was done, but aborted after 1 cage as fish suffered high mortality.
WK35 - FW treatment
WK40 - Hydrolicer treatment
WK41 HL
Site is currently harvesting - worst affected cages (sea lice) are being harvested out first and will be emptied this week, followed by cage 10.

Physical inspection of cages could not be undertaken due to weather.

Inspection completed by [redacted] observed by [redacted]

Case No:	2022-0598	Site No:	FS1335
Date of Visit:	23/11/2022	Inspector(s):	[redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities	12	Facilities stocked	11				0
Species	SAL						
Age group	21 S0						
No Fish	305,116						
Mean Fish Wt	5 Kg						
Next Fallow Date (Site)	Dec 2022		Next Input Date (Site)		July 2023		
Recent (last 4 wks) disease problems?		Y	Any escapes (since last visit)?				N
If yes, detail:	PGD and CMS						

Movement Records

1. Movement records available for inspection?	N
2. Date of last inspection:	24/04/2022
3. Are records complete and correctly entered?	Y
4. Are movement records available for dead fish and waste?	Y
5. Are records complete and correctly entered?	Y
6. Are health certificates for introductions (outwith GB) available?	N/A

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?	Y
2. How are mortalities disposed of?	Other (detail)
If other detail:	Pelagia
3. Mortality records complete and correctly entered?	Y
4. Recent mortality (last 4 wks):	WK46 - 1266 (3.72%) WK45 13,617 (3.72%) WK 44 9,375 (2.5%) WK43 7,125 (1.76%)
5. Evidence of recent increased/atypical mortalities?	Y

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

10, 11, 12 - handling mortality better, possibly higher marine content of their food

6. Any other peaks in mortality during period checked?	N
If yes, detail:	
7. Have increased (unexplained) mortalities been reported to vet or FHI?	N/A
If yes, detail action:	
8. 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:	H2O2
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* (*unexplained)* mortality at the site been included?	
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	
8. Have the biosecurity procedures been adequately implemented on site?	
If no, detail:	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	Y
2. If yes, are results available for inspection?	Y
3. Any significant results?	Y
If yes, detail (if not detailed under recent disease problems).	See above
Records checked between:	

Case No: 2022-0598 Site No: FS1335

Sea Lice Inspection (Seawater Sites Only)

1. Has the site experienced sea lice problems in the previous 4 years?
2. Is the CoGP Farm Management Area (or equivalent) fallowed synchronously on a single year class basis?
3. Does the site have access to a range of licenced in-feed and bath sea lice medications (including deltamethrin, azamethiphos and emamectin benzoate) as well as access to suitable biological and/or mechanical control measures, and can these be deployed in a reasonable period of time?
4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equivalent)?
5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6)
6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6)
7. Are sea lice (*L. salmonis*) record levels below the suggested criteria for treatment in the CoGP during the period that records are inspected? (CoGP Annex 6)
8. Have average adult female sea lice (*L. salmonis*) numbers per fish been at a level of 3 or above (prior to w/b 10/6/19) or 2 or above (from w/b 10/6/19) during the period that records are inspected?

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

9. Is *C. elongatus* infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50)
10. Have therapeutic treatments been administered or other actions taken when *L. salmonis levels* have exceeded the suggested criteria for treatment or where *C. elongatus* is considered to have welfare implications? (CoGP 4.3.82, 5.3.51)
11. Has any other action been taken (where applicable)?
12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded?
13. Are treatments, where conducted, carried out in cooperation between participating farms?
14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for sea lice?
15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during the escalation of a sea lice infestation?
16. Do the sea lice levels observed on stocks reflect sea lice count data? If no please detail reasons.

Containment Inspection

1. Has the site experienced equipment damage due to predators in the current or previous production cycles?
2. Are measures in place to mitigate against the predation experienced on site? (Detail below)

If other, detail below:

3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection? N

If Yes proceed with questions 4 – 9. If No skip to question 10

4. Have these been reported to Scottish Ministers?
5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
7. Were methods (if any) used to recover escapees? If yes give detail
8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, CoGP – 4.4.38, 5.4.18)
9. What action was taken to prevent and minimise the risk of further escapes? (Not covered in code but could be considered under satisfactory measures of the Act)
10. Is the site inspected as satisfactory with regards to containment? If no, please detail reason(s)

Case No: 2022-0598 Date of visit: 23/11/2022

Site No: FS1335 Inspector:

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp

Report Summary			
Case Type	Date	Insp	2nd Insp
REG, UNI	26/01/2023		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0125	**DATE OF VISIT**	23/11/2022
SITE NO	FS1335	**SITE NAME**	Swarta Skerry, Dury Voe
CASE NO	20220598	**INSPECTOR**	[redacted]

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, without prior notification, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009 and following reported increased mortalities by the farm operator.

Records

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.

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

Signed: [redacted] Date: 25/01/2023

Fish Health Inspector

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Marine Scotland website at www.gov.scot/Topics/marine/Fish-Shellfish/FHI/charter

Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science

Case No: 2022-0599 Date of visit: 23/11/2022

Time spent on site: 2 hours Main Inspector: [redacted]

Site No: FS1121 Site Name: Bight of Bellister, Dury Voe
Business No: FB0125 Business Name: Scottish Sea Farms Ltd

Case Types: 1 REG 2 REP 3 UNI 4 5 6

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

Observations: Region: SH Water type: S CoGP MA S-5

Dead/weak/abnormally behaving fish present?		If yes, see additional information/clinical score sheet.
Clinical signs of disease observed?		If yes, see additional information/clinical score sheet.
Gross pathology observed?		If yes, see additional information/clinical score sheet.
Diagnostic samples taken?		

UNI/REG only - if unable to carry out intended visit detail reason below:

Additional Case Information:

Mortalities are collected by Hendersons and sent to Pelagia for biogas generation.

Pens 1-4 (4 the worst 23,000 since input) have been quite badly affected, pens had a higher stocking density (since split down). 10,11

WK42 - 5203 (1.26%) WK40 12,161 (2.84%) WK38 17838 (3.97%)

WK40 - Treatements - Peroxide treament WK38 (cages 1 and 3) - perxide treatment was abandoned following high mortalites on the treated cages

WK38 - Thermolicer treatment cages 1, 3, 7, 8, 9, 10, 11 cages 5 and 6 were unstocked, cage four was done with freshwater as fish were thought to be unable to cope with treatment

Health reports - 12/11/2022 - Gill damage was highly variable throughout the site with around 70% of fish having poor GH. AGD was tested for and found to be present on the site, however there was little evidence of clinical signs.

40% of fish shown to have moderate levels of gill damage, but with a high level of visually healthly gill tissue remaining. Remainder (30%) were significanlty affected with little healthy tissue on the gills.

Lice levels were relativily high in all stages and treatments were continuing There was little evidence of grazing on the fish's skin.

13/09 - Overall fish appeared to be in good condition, with some lesion/scale damage. Gill health was continuing to decrease at this time, with higher PGD scores. Gills were bleeding in the anaesthetic water

Sea lice - Moderate - high.

Inspection by [redacted], observed by [redacted]

Physical inspection of cages could not be undertaken due to weather.

Case No: 2022-0599 Site No: FS1121

Date of Visit: 23/11/2022 Inspector(s): [redacted]

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities	12	Facilities stocked	11	No facilities inspected	0		
Species	SAL						
Age group	21 S0						
No Fish	338,884						
Mean Fish Wt	3.8 Kg						
Next Fallow Date (Site)	January/Feb 2023	Next Input Date (Site)	Aug 2023				
Recent (last 4 wks) disease problems?	Y	Any escapes (since last visit)?	N				
If yes, detail:	PGD CMS						

Movement Records

1. Movement records available for inspection?	Y
2. Date of last inspection:	26/04/2022
3. Are records complete and correctly entered?	Y
4. Are movement records available for dead fish and waste?	Y
5. Are records complete and correctly entered?	Y
6. Are health certificates for introductions (outwith GB) available?	N/A

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?	Y
2. How are mortalities disposed of?	Other (detail)
If other detail:	Pelagia
3. Mortality records complete and correctly entered?	Y
4. Recent mortality (last 4 wks):	WK46 - 1904 (0.56%) WK 45 7412 (2.13%) WK44 9335 (2.61%) WK43 6156 (1.51%)
5. Evidence of recent increased/atypical mortalities?	Y
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
6. Any other peaks in mortality during period checked?	Y
If yes, detail:	See additional comments
7. Have increased (unexplained) mortalities been reported to vet or FHI?	N/A
If yes, detail action:	
8. 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)?	
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* (*unexplained)* mortality at the site been included?	
4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?	
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	
8. Have the biosecurity procedures been adequately implemented on site?	
If no, detail:	

Results of Surveillance

1. Has any animal health surveillance been carried out by, or on behalf of, the business?	Y
2. If yes, are results available for inspection?	Y
3. Any significant results?	Y
If yes, detail (if not detailed under recent disease problems).	See above

Records checked between:	26/04/2022

Case No: 2022-0599 Date of visit: 23/11/2022

Site No: FS1121 Inspector:

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2nd Insp

Report Summary			
Case Type	Date	Insp	2nd Insp
REG	25/01/2023		

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS NO	FB0125	**DATE OF VISIT**	23/11/2022
SITE NO	FS1121	**SITE NAME**	Bight of Bellister, Dury Voe
CASE NO	20220599	**INSPECTOR**	[redacted]

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

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Records

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:

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Signed: [redacted] Date: 25/01/2023

Fish Health Inspector

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Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science