

Case No:	2021-0167	Date of visit:	08/06/2021			
Time spent on site:	3 working days	Main Inspector:				
Site No:	FS1240	Site Name:	Highland			
Business No:	FB0544	Business Name:	Scotland			
Case Types:	1 STS	2 DIA	3 OTH	4	5	6
Water Temp (°C):	17.5	Thermometer No:	T173	FHI 045 completed		
Observations:	Region:	HI	Water type:	B	CoGP MA	
Dead/weak/abnormally behaving fish present?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="checkbox"/>					

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

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Additional Case Information:

Accompanied by [REDACTED] and [REDACTED]

Screening of 150 juvenile salmon from the River Forss for pathogens following reports of a collapse of recruitment last year. 150 fish were caught by electro fishing over two days, 8th and 9th of June 2021 (ND058639).

Two adult salmon with clinical signs of disease were observed and removed from the the river north of the Forss House Hotel (ND035686 and ND034687) and diagnostic samples were taken.

Numerous moribund and dead adult salmon were reported observed in the river last year and the year before however due to travel restrictions the FHI were not able to investigate and take samples in 2020.

Due to potential adult salmon diagnostic samples the following samples were pooled and plates split to keep back media for an additional five fish diagnostic F141 and F142, F143 and F144, F145 and F146, F147 and 148, F149 and F150.

On 8/6/2021 - [REDACTED] sampled 91 - 95 (histo and GS) [REDACTED] sampled 96 to 100 (histo and GS), [REDACTED] F1-14 (Molgen/GS/Plates) F15-50 [REDACTED] (Molgen,/GS/Plates)

On 9/6/2021 - [REDACTED] 101 to 123 (histo and GS), [REDACTED] 124 to 134 (Histo and GS), [REDACTED] 135 to 150 (Histo and GS), [REDACTED] 51 to 90 (GS, Molgen, plates)

On 10/6/2021 - [REDACTED] sampled F151 and [REDACTED] 152

Case no: Site No: Date of visit/
Sampling:

Priority samples: VI BA PA MG HI

Time sampling starts/ends: Inspector: VMD No.

Environmental conditions: 1 2 3 4 5

Summary samples HIST BA MG VI PA Total Samples

Add Fish/Pools - click

Pool/Fish No	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
Fish nos	1	2	3	4	5	6	7	8	9	10	11	12
Pool Group												
Species	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL
Average weight	25g	25g	25g	25g	25g	25g	25g	25g	25g	25g	25g	25g
Sex	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Type	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
Stock Details												
	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss
Stock Origin												
Facility No												

06/2021 Additional Sample Information:
 2 pots of formalin, dry tube of kidney and scale sample also included.

152 Total Tests assigned 21

F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25	F26	F27	F28
13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL
25g	25g	3g	3g	3g	3g	3g	3g	3g	3g	3g	3g	3g	3g	3g	3g
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW	FW
River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss	River Forss

Case no: **2021-0167** Site No: **FS1240** Method of killing: **Anaesthetic**
 Date of visit: **08/06/2021** Inspector(s): **[REDACTED]** Sheet Relevant: **Y**

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

Fish Number	F151	152							
Time sampled after death (if > 45 minutes)									
External Signs									
Behaviour									
Moribund	S	S							
Lethargic	S	S							
Hanging vertical									
Spiralling									
Flashing									
Loss of equilibrium									
Body									
Dark									
Distended abdomen									
Anorexic		W							
Scale Oedema									
Opercula									
Shortened									
Flared									
Haemorrhaging									
Throat	S	S							
Ventrum	S	S							
Base of fins	S	S							
Elsewhere	S	S							
Eyes									
Exophthalmic									
Enophthalmic (sunken)									
Cataract									
Haemorrhagic									
Gills									
Pale	S	S							
Zoned									
Necrotic									
Lesions									
Flank	S	S							
Elsewhere	S	S							
Vent									
Inflamed	S	S							
Trailing faeces									
Lice Load									
Estimate numbers									
Internal Signs									
Ascites									
Clear									
Bloody									
Oedema									
In tissues									
Heart									
Pale/anaemic	W								
Granulomas									
Deformed									
Liver									
Petechial haem									
Gross haem									
Tissue breakdown									
Enlarged									
Colour number(s)									
Granulomas									
Lesions									
Pyloric caeca									
Petechial haem									
Tubules mauve									
Lack of fat	m	m							
Spleen									
Enlarged	S	m							
Granulomas									
Gut									
No food present									
Yellow pseudo-faeces									
External haem									
Internal haem									
Body wall									
Haemorrhaging									
Swim bladder									
Haemorrhaging									
Fluid filled									
Kidney									
Swollen									
Grey	W								
Granular	W								
Liquefied									
General									
Parasites present									
Anaemia									

Additional comments:

Case No: **2021-0167** Date of visit: **08/06/2021**
 Site No: **FS1240** Inspector: **[REDACTED]**

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2 nd Insp
MG - Piscine myocarditis virus	0/90			23/06/2021		29/09/2021		
MG - piscine Reovirus	0/90			23/06/2021		29/09/2021		
MG - Salmonid alphavirus	0/92			23/06/2021		29/09/2021		
MG - VHS	0/92			23/06/2021		29/09/2021		
MG- IPN	0/92			23/06/2021		29/09/2021		
GS	0/152			29/06/2021		29/09/2021		
G.derjavinoïdes	25/152			29/06/2021		29/09/2021		
Saprolegnia sp.	2/152			29/06/2021		29/09/2021		
Anisakis sp.	1/152			29/06/2021		29/09/2021		
IHNQ	0/92	21/07/2021		23/07/2021		29/09/2021		
GPAT	5/62	21/07/2021		23/07/2021		29/09/2021		
ANIH	3/62	21/07/2021		23/07/2021		29/09/2021		
CEST	2/62	21/07/2021		23/07/2021		29/09/2021		
LPAT	6/62	21/07/2021		23/07/2021		29/09/2021		
COCC	4/62	21/07/2021		23/07/2021		29/09/2021		
NSIG	3/92	21/07/2021				29/09/2021		
FSPE	1/92	21/07/2021		23/07/2021		29/09/2021		
PSPE	4/92	21/07/2021		23/07/2021		29/09/2021		
PSFL	7/92	21/07/2021		23/07/2021		29/09/2021		
FSPE	5/92	21/07/2021		23/07/2021		29/09/2021		
Plesiomonas shigelloïdes	33/92	21/07/2021		23/07/2021		29/09/2021		
Citrobacter sp.	5/92	21/07/2021		23/07/2021		29/09/2021		
AERO	9/92	21/07/2021		23/07/2021		29/09/2021		
Onchrobacterium sp.	4/92	21/07/2021		23/07/2021		29/09/2021		
SAPR	2/92	21/07/2021		23/07/2021		29/09/2021		
MG SYNG SAL	0/1	21/07/2021				29/09/2021		
MG BRAN_CYS	0/1	21/07/2021				29/09/2021		
AGDQ	0/90	21/07/2021				29/09/2021		
Paranucleospora theridion	0/90					29/09/2021		
Salmon gill poxvirus	1/90					29/09/2021		
MG CLAV_CH_SAL	1/1	21/07/2021		23/07/2021		29/09/2021		
MG PIS_CH_SAL	1/1	21/07/2021		23/07/2021		29/09/2021		
FPSY	2/92	21/07/2021		23/07/2021		29/09/2021		
Kocuria sp.	1/92	21/07/2021		23/07/2021		29/09/2021		

Report Summary			
Case Type	Date	Insp	2 nd Insp
STS, OTH	29/09/2021		
DIA,	29/09/2021		

BUSINESS No FB0544
SITE No FS1240
CASE No 20210167

DATE OF VISIT 08/06/2021
SITE NAME River Forss
INSPECTORS [REDACTED]

Results Summary

When conducting a statutory 150 fish sample of juvenile salmonids in the River Forss, two moribund adult Atlantic salmon with clinical signs of disease were observed and removed from the river for further examination and subsequent diagnostic sampling.

Tissue material was inoculated onto appropriate media for the isolation of bacteria. *Flavobacterium psychrophilum*, which is known as a primary fish pathogen was observed at a significant level in fish 152. *Aeromonas* sp. (likely *A. sobria*) was overall the most predominant bacterium observed in both fish. Although there were primary and opportunist fish pathogens identified, the highly mixed nature of the growth observed would not suggest they would be implicated as primary pathogens.

A significant level of fungus-like growth was observed on plates taken from lesion material of both fish this was confirmed as being *Saprolegnia parasitica* by DNA sequencing.

Histopathology examination revealed mild bacterial branchitis in fish 152 and the presence of some parasites within the gut and the kidney, which are commonly found in wild fish.

Salmon gill poxvirus was identified from both fish using real-time PCR (qPCR),

Fin samples were tested for the presence of *Gyrodactylus salaris*, the result of this test was negative. A single *G. derjavinoidea* was identified by QPCR on the fin of F152.

Two Anisakid worms consistent with *Anisakis* sp., were observed free in the musculature around the vent opening.

Whilst a number of pathogens were identified from the samples taken, a specific causative agent has not been identified. The evidence suggests that the cause of the morbidity observed would most likely be the external lesions and associated secondary opportunistic infection with *Saprolegnia parasitica*, however the cause of the lesions in the first instance cannot be determined.

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

Case detail

The Fish Health Inspectorate (FHI) have received reports of spring-run adult salmon in the River Forss displaying clinical signs of disease since 2019. The results from diagnostic samples taken from 5 fish in 2019 did not identify a primary pathogen. In 2020 additional reports were received however, due to Covid-19 travel restrictions no further investigative work or sampling could be conducted by the FHI. Juvenile recruitment data, received by the FHI in September 2020, indicate a significant reduction from 2018 onwards. Reductions of juvenile recruitment can be an indicator

R09

of the presence of disease, therefore a 150 fish sample was organised in 2020 to test for the presence of listed disease and also to perform a general health screen on the population. Due to weather conditions and further travel restrictions this was delayed and completed over a two day period beginning on the 8th June 2021. Please see the separate report that has been issued for the full results.

Whilst conducting the 150 fish sample, it was reported that moribund adult salmon had been observed downstream. On inspection of the river two were observed, the first at ND 03450 68688 and the second at ND 03583 68659. Both were removed from the river for further examination and subsequent diagnostic sampling and added to the statutory sample that had been taken.

Both fish were moribund and lethargic and F152 appeared anorexic. Both fish had haemorrhaging on the throat, ventrum, the base of the fins and also on the flanks. Lesions were also present on the flank, head and fins of both fish with fungus-like structures also evident.

Internally, F151 had a pale heart and a grey and granular kidney, while both fish lacked fat on the pyloric caeca and displayed splenomegaly.

Samples

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

Fish number	Location	Stage	Origin
F151	River Forss (ND03450 68688)	Adult	Wild
F152	River Forss (ND03583 68659)	Adult	Wild

Results

Bacteriology: Kidney, gill, spleen and lesion material from F151 and F152 were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria was isolated from fish 151:

- *Aeromonas sp (likely sobria)* (kidney, spleen and lesion)
- *Flavobacterium sp.* (spleen, lesion and gill)
- *Kocuria sp.* (kidney)

The following bacteria were isolated from fish 152:

- *Flavobacterium psychrophilum* (lesion and gill);
- *Aeromonas sp (likely sobria)* (kidney and lesion)
- *Flavobacterium sp.* (spleen)

In addition to the bacteria identified, fungus-like structures were observed on plates taken from lesion material from both fish, this was identified as *Saprolegnia sp.* by light microscopy, samples and sequencing confirmed this to be *Saprolegnia parasitica*.

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 (SGPV)
R09

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F151	20.02	23.52	23.52	23.6	Positive
F152	19.88	23.79	23.83	24.0	Positive

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), infectious salmon anaemia virus (ISAV), salmonid alphavirus (SAV) and viral haemorrhagic septicemia virus (VHSV).

Parasitology: Fins were collected to determine the presence of *Gyrodactylus salaris* using light microscopy and molecular techniques (PCR).

No *G. salaris* parasites were detected in the samples examined.

A single *G. derjavinoidea* was removed from the fin of F152 and identified by QPCR.

A sample of vent was collected to determine the presence of parasites. Two white Anisakid worms, consistent with *Anisakis* sp., were observed free in the musculature around the vent opening.

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

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

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from F151 and 152. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Presence of aggregates of bacteria free among the lamellae and colonizing the lamellar surface. The bacteria shows affinity to the hypertrophic chloride cells (F152). Some bluntness on gill filament (F151);

Skin & Muscle: Some individual muscular fibre degeneration (F151 & F152);

Heart: Within normal range;

Gut and pyloric caeca: Presence of Cestoda parasite within the gut lumen and Nematoda resembling Anisakid parasites (F152). Hindgut with some congested folds (F151);

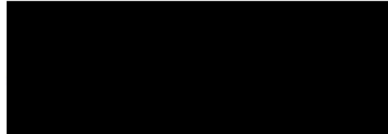
Pancreas: Within normal range;

Liver: Within normal range;

Kidney: Some dilation of the lumen of renal tubes and some exhibited presence low intensity focal intratubular myxosporidiosis with early spore formation and no host response (F152). F151 displayed focal areas of reduction of haematopoietic tissue;

Spleen: Foci of haematopoietic tissue reduction (F152).

Signed:



Fish Health Inspector

Date: 29/09/2021

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/>

R09

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 HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0544	DATE OF VISIT	08/06/2021
SITE No	FS1240	SITE NAME	River Forss
CASE No	20210167	INSPECTORS	[REDACTED]

Results Summary

One hundred and forty eight juvenile Atlantic salmon and two juvenile brown trout were tested for the presence of listed disease and to conduct a general health screen.

Fin samples from F1-150 were tested for the presence of *Gyrodactylus salaris*, the result of this test was negative. Forty seven *G. derjavinoidea* were identified by QPCR on the fins of 24/150.

Kidney and spleen material from F1-90 were inoculated onto appropriate media for the isolation of bacteria.

Plesiomonas shigelloidea was the most predominant bacteria observed (29/90) with *Aeromonas* sp. (with characteristics most similar to *A. sobria*) also observed at a slightly higher level (7/90) than the other bacteria. The bacteria identified were most likely of environmental origin.

The growth observed was overall light to moderate and very mixed, suggesting that the bacteria identified would not be implicated in the health of the population.

Histopathological examination of tissue samples from F91-100 (parr) revealed very minimal gill pathology and one fish displayed some epitheliocystis (F98). Additional screening by QPCR identified *Candidatus piscichlamydia salmonis* and *Candidatus clavoichlamydia salmonicola*.

Several fish exhibited coccidian sporozoites and meronts in the intestine but with no inflammation associated. Myxosporidiosis is likely incidental.

Histopathological examination of F101 to F150 (fry) revealed very minimal hepatitis and peritonitis. Several fish exhibited different parasites (nematode, trematode metacercariae and coccidian sporozoites and meronts in the intestine with no inflammation associated). These parasites are commonly found in wild salmonids.

Salmon gill poxvirus was identified using real-time PCR (qPCR), (F2,14 and 73).

The results indicate that there was no evidence of underlying health issues in the juvenile population that would be implicated in the reduced recruitment levels recorded. It is unlikely that the pathogens identified would be implicated in the health issues affecting the spawning population.

Case detail

The Fish Health Inspectorate (FHI) have received reports of spring-run adult salmon in the River Forss displaying clinical signs of disease since 2019. Diagnostic samples taken from 5 fish in 2019 failed to isolate a specific causative agent. In 2020 additional reports were received however, due to Covid-19 travel restrictions no further investigative work or sampling could be conducted by the FHI. Juvenile recruitment data, received by the FHI in September 2020, indicate a significant reduction from 2018 onwards. Reductions of juvenile recruitment can be an indicator of the presence of disease therefore a 150 fish sample was organised in 2020 to test for the presence of listed disease and also to perform a general health screen on the population however, due to weather conditions and further travel restrictions this was delayed and completed over a two day period beginning on the 8th June 2021.

One hundred and forty eight juvenile Atlantic salmon and two juvenile brown trout were caught using electrofishing equipment over a ~400m stretch of river starting at ND 05767 63941 and terminating at ND 05594 63679. Of the 150 fish sampled no clinical signs of disease or gross pathology was observed.

Two moribund adult salmon with clinical signs of disease were removed from the river for further examination and subsequent diagnostic sampling, a separate report will be issued detailing the results of these tests.

Samples

Samples were collected according to the table below:

Fish number	Location	Stage	Origin
F1-14, F51-F100	River Forss (ND058639)	Parr	Wild
F15-50, F101-150	River Forss (ND058639)	Fry	Wild

Results

Bacteriology: Kidney and spleen material from F1 – F90 were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria were isolated.

- *Pseudomonas aeruginosa*, two isolates 2/90 and 2/90;
- *Flavobacterium sp.*, three isolates 1/90, 5/90 and 1/90;
- *Pseudomonas fluorescens*, two isolates, 3/90 and 2/90;
- *Plesiomonas shigelloides*, four isolates, 29/90;
- *Citrobacter sp.* one isolate 5/90;
- *Aeromonas sp. (sobria)*, three isolates 7/90;
- *Ochrobactrum anthropi*, one isolate 4/90;
- *Flavobacterium psychrophilum* one isolate 1/90.

Following observations made during histopathological examination, QPCR analysis was performed on gill tissue from F98. The following pathogens were identified:

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Candidatus piscichlamydia salmonis

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F98	24.84	38.87	38.27	40.11	Positive

Candidatus clavochlamydia salmonicola

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F98	24.84	31.24	31.40	31.28	Positive

The samples tested negative for *Candidatus branchiomonas cysticola* and *Candidatus Syngnamydia 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 (SGPV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F2	18.77	32.27	31.82	32.03	Positive
F14	20.10	37.06	37.37	36.07	Positive
F73	19.18	32.27	32.10	32.16	Positive

The remaining fish were negative for SGPV.

Samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), salmonid alphavirus (SAV) and viral haemorrhagic septicemia virus (VHSV), piscine reovirus (PRV), and piscine myocarditis virus (PMCV).

Parasitology: Fins were collected to determine the presence of *Gyrodactylus salaris* using light microscopy and molecular techniques (PCR).

No *G. salaris* parasites were detected in the samples examined.

Forty seven *G. derjavinoidea* were identified by QPCR on the fins of 24/90 fish.

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

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

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from Fish 91-100. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Very small focal areas of hyperplasia (F91), five small focal areas of necrosis of the lamellae vessels (vasculitis), some cellular inflammatory infiltrate (F94) and several basophilic epithelial

inclusions (likely epitheliocystis). F98 displayed very mild cellular inflammatory infiltrate in the gill filament.

Skin & Muscle: very small area of cellular inflammatory infiltrate on the adipose tissue between the red and white muscle(F98).

Heart: Within normal range.

Gut and pyloric caeca: some coccidian sporozoite stages (F94, F96, F99) and meronts (F97, F98, F99) embedded in the intestinal folds. No inflammation noted. F94 & F100 also had some nematodes (likely Anisakid parasites) present within the gut. F95 no pyloric caeca in section.

Pancreas: Within normal range. F95 not in section.

Liver: Three small focal areas of sinusoidal congestion (F91).

Kidney: Some dilation of the lumen of renal tubes and some exhibited presence low intensity focal intratubular myxosporidiosis with early spore formation and no host response (F93, F95, F97, F98, F99 and F100). F100 also displayed some occasional tubular dilation. F94 not in section.

Spleen: Within normal range

The bodies of fish 101- 150 were fixed in 10% neutral buffered formalin.

101 - 117 fish

The fish did not displayed tissue alterations on the different organs, however:

F05 and F107 displayed some meronts embedded in the intestinal folds, F13 exhibited one foci of inflammatory cell infiltration on the liver and F5 displayed mild, diffuse vacuolation (macrovesicles) of hepatocyte (liver).

118-150 fish

The fish did not displayed tissue alterations, however:

F123 and F124 - displayed a trematode parasite within the intestinal lumen, F126 - displayed some focal hepatic vacuolation. F123 and F127 - eye displayed trematode metacercariae. F128, F138 and F142 - the liver exhibited a small focal area of cellular infiltration. F136 and F142 - exhibited adipose tissue surrounding pancreas with focal inflammatory cell infiltration and haemorrhage. F144 - some coccidian sporozoite stages.

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

Signed:



Date: 29/09/2021

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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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: 2021-0208 Date of visit: 15/06/2021

Time spent on site: 3 hours Main Inspector: [Redacted]

Site No: FS1067 Site Name: Inverawe (East) Etive 2
Business No: FB0456 Business Name: Dawnfresh Farming Ltd

Case Types: 1 ECI 2 CNI 3 SLI 4 VMD 5 [] 6 []

Water Temp (°C): 12.3 Thermometer No: T155 FHI 045 completed []

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

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:
[Redacted]

Additional Case Information:

All fish sampled for VMD appeared healthy and showed no clinical signs of disease.

Water was very murky, lots of fresh water present in the loch. Fishes looked to be in good condition.

Case No: Site No:

Date of Visit: Inspector(s):

Registration/Authorisation Details

1. Business/site details summary checked by site representative?

2. Changes made to details?

Site Details (include cleaner fish for all sections)

Total No facilities	<input type="text" value="6"/>	Facilities stocked	<input type="text" value="6"/>	No facilities inspected	<input type="text" value="6"/>
Species	<input type="text" value="RTR"/>				
Age group	<input type="text" value="2021"/>				
No Fish	<input type="text" value="114,697"/>				
Mean Fish Wt	<input type="text" value="227g"/>				
Next Fallow Date (Site)	<input type="text" value="24 October 21"/>	Next Input Date (Site)	<input type="text" value="June/July 21"/>		
Recent (last 4 wks) disease problems?	<input type="text" value="N"/>		Any escapes (since last visit)?	<input type="text" value="N"/>	
If yes, detail:	<input type="text" value=""/>				

Movement Records

1. Movement records available for inspection?

2. Date of last inspection:

3. Are records complete and correctly entered?

4. Are movement records available for dead fish and waste?

5. Are records complete and correctly entered?

6. Are health certificates for introductions (outwith GB) available?

Transport Records

1. Are any movements carried out by (or on behalf) of the business (not using a STB)?

If yes, is there a system in place for maintenance of transportation records?

Mortality Records

1. Mortality records available for inspection?

2. How are mortalities disposed of?

If other detail:

3. Mortality records complete and correctly entered?

4. Recent mortality (last 4 wks):

5. Evidence of recent increased/atypical mortalities?

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

6. Any other peaks in mortality during period checked?

If yes, detail:

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

If yes, detail action:

8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.

Treatments and Medicines Records

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

Biosecurity Records

1. Biosecurity records available for inspection?	<input type="checkbox"/>	Y
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	<input type="checkbox"/>	Y
3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any <i>increased (unexplained)</i> mortality at the site been included?	<input type="checkbox"/>	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 <i>how</i> and <i>when</i> that will be notified to Scottish Ministers?	<input type="checkbox"/>	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)?	<input type="checkbox"/>	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.)?	<input type="checkbox"/>	Y
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	<input type="checkbox"/>	Y
8. Have the biosecurity procedures been adequately implemented on site?	<input type="checkbox"/>	Y
If no, detail:		

Results of Surveillance

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

Records checked between:	27/06/2019-15/06/2021
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Case no: Site No: Date of visit/
Sampling:

Priority samples: VI BA PA MG HI

Time sampling starts/ends: Inspector: VMD No.

Environmental conditions: 1 2 3 4 5

Summary samples HIST BA MG VI PA Total Samples

Add Fish/Pools - click

Pool/Fish No													
Fish nos	1												
Pool Group													
Species	RTR												
Average weight	227g												
Sex	N/A												
Water Type	SW												
Stock Details		New farm (selcoth)											
	Stock Origin												
Facility No	E4												

Case Number:		2021-0208	Site No:		FS1067	Insp:			
Date of Visit		15/06/2021	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		5		
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26				
	Number of suppliers	0	5	10	14		5		
Movements off	Frequency of movements off	0	3	6	10		10		
	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			2	
	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							
	Processing own fish (re-cycling risk)	1						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		2	
	Sites sharing staff and equipment	0		1		2		2	
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	34		
						Rank	HIGH		

Case No:

Site No:

Sea Lice Inspection (Seawater Sites Only)

- 1. Has the site experienced sea lice problems in the previous 4 years?
- 2. Is the CoGP Farm Management Area (or equivalent) followed 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 are these being used 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 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
- 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised
- 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)

Seal pro nets top nets weighted system

If other, detail below:

- 3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection?
If Yes proceed with questions 4 – 9. If No skip to question 10
- 4. Have these been reported to Scottish Ministers?
- 5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 7. Were methods (if any) used to recover escapees? If yes give detail
- 8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, 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: 2021-0208

Site No: FS1067

Date of Visit: 15/06/2021

Inspector: [REDACTED]

Point of Compliance

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

If N, no further questions require completion.

Points of Compliance for Both Farm Management Agreements and Statements

2. Has a current farm management agreement or statement (FMAg/S) been prepared?

3. Is the current FMAg/S available for inspection?

4. Does the FMAg/S identify the relevant farm management area?

5. Does the FMAg/S identify the fish farm site(s) to which it applies?

6. Does the FMAg/S identify the date of commencement of the agreement or statement?

7. Does the FMAg/S identify the date of review?

Arrangements for Fish Health Management

8. Does the FMAg/S identify the minimum health standards for the stocks to be introduced to the area or farm?

9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm?

10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm?

11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm?

12. Does the FMAg/S identify the arrangements for the storage and disposal of any dead fish from any fish farm in the area or the individual farm?

Arrangements for The Management of Sea Lice

13. Does the FMAg/S identify arrangements for the sharing of data on sea lice numbers and treatments?

14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement?

15. Does the FMAg/S identify any requirements for the sensitivity testing of available treatments for sea lice on farms in the area or individual farms?

16. Does the FMAg/S identify the circumstances under which biological controls and cleaner fish are to be used on farms in the area or individual farms?

17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area?

Live Fish Movements

18. Does the FMAg/S identify the circumstances when live fish may be introduced or removed from the area or farm?

19. Does the FMAg/S identify the arrangements for the movement of live fish on and off sites in the area or individual farms?

Harvesting

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

Fallowing

21. Does the FMAg/S identify the dates by which the area or individual farm will be fallow and the earliest date when a farm or area may be restocked?

22. Does the FMAg/S identify whether one or more year classes may be stocked onto sites covered by the agreement or statement?

23. Does the FMAg/S identify whether broodstock or potential broodstock are to be kept on any site covered by the agreement or statement?

Point of Compliance for Farm Management Agreements Only

24. Does the farm management agreement include arrangements for persons to become, or cease to be, parties to the agreement?

Management and operation

25. Is the fish farm being managed and operated in accordance with the agreement or statement?

26. What is the version no/date of issue of the FMAg/S?

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0456	DATE OF VISIT	15/06/2021
SITE No	FS1067	SITE NAME	Inverawe (East) Etive 2
CASE No	20210208	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 high. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted annually. The category of the site will be reassessed on a routine basis and updated as required.

The information required for the public record of aquaculture production businesses regarding this site was verified and where necessary updated. The following records were also inspected to ensure that the conditions of authorisation for your Aquaculture Production Business (APB) are being met:

Aquaculture animal and aquaculture animal product movement records were inspected and appeared to be adequately maintained.

Mortality records were inspected and found to be adequately maintained.

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.

Inspection under the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2015

Medicine records were inspected and found to be adequately maintained.

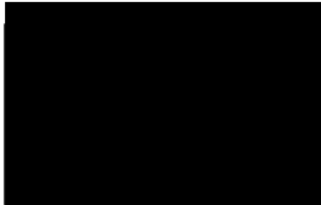
Samples were taken to be analysed for veterinary residues.

Inspection under the Aquaculture and Fisheries (Scotland) Act 2007

The site was also inspected in accordance with the Aquaculture and Fisheries (Scotland) Act 2007, as amended, with respect to section 3 regarding parasites (sea lice), section 4A regarding fish farm management agreements and statements and section 5 regarding containment and escapes.

On this occasion the site was found to be satisfactory with regards to parasites, fish farm management agreements and statements and containment and escapes.

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



Signed:

Date: 25/10/2021

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/>

Case No: 2021-0209 Date of visit: 15/06/2021

Time spent on site: 3 hours Main Inspector: [Redacted]

Site No: FS1112 Site Name: Etive 4
Business No: FB0456 Business Name: Dawnfresh Farming Ltd

Case Types: 1 ECI 2 CNI 3 SLI 4 VMD 5 [] 6 []

Water Temp (°C): 12.5 Thermometer No: T155 FHI 045 completed []

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

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:
[Redacted]

Additional Case Information:

Peaks in mortality - week 38 2020 - 3421 - seal damage 0.9%
week 45 - 3254 - Handling - 0.9%

Site is continuously stocked from pens split at other sites in the loch.

Water very murky, lots of fresh water present. fish looked in good condition, observed one or two fish with fin/tail damage.

All fish sampled for VMD appeared healthy and showed no clinical signs of disease.

Case No: Site No:

Date of Visit: Inspector(s):

Registration/Authorisation Details

1. Business/site details summary checked by site representative?

2. Changes made to details?

Site Details (include cleaner fish for all sections)

Total No facilities	<input type="text" value="10"/>	Facilities stocked	<input type="text" value="9"/>	No facilities inspected	<input type="text" value="9"/>
Species	<input type="text" value="RTR"/>	<input type="text" value="RTR"/>	<input type="text" value="RTR"/>		
Age group	<input type="text" value="2019"/>	<input type="text" value="2020"/>	<input type="text" value="2021"/>		
No Fish	<input type="text" value="251,534"/>	<input type="text" value="197,253"/>	<input type="text" value="94,304"/>		
Mean Fish Wt	<input type="text" value="2.4kg"/>	<input type="text" value="827g"/>	<input type="text" value="679g"/>		
Next Fallow Date (Site)	<input type="text" value="13th march 2023"/>		Next Input Date (Site)	<input type="text" value="Not known - See additional"/>	
Recent (last 4 wks) disease problems?	<input type="text" value="N"/>		Any escapes (since last visit)?	<input type="text" value="N"/>	
If yes, detail:	<input type="text" value=""/>				

Movement Records

1. Movement records available for inspection?

2. Date of last inspection:

3. Are records complete and correctly entered?

4. Are movement records available for dead fish and waste?

5. Are records complete and correctly entered?

6. Are health certificates for introductions (outwith GB) available?

Transport Records

1. Are any movements carried out by (or on behalf) of the business (not using a STB)?

If yes, is there a system in place for maintenance of transportation records?

Mortality Records

1. Mortality records available for inspection?

2. How are mortalities disposed of?

If other detail:

3. Mortality records complete and correctly entered?

4. Recent mortality (last 4 wks):

5. Evidence of recent increased/atypical mortalities?

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

6. Any other peaks in mortality during period checked?

If yes, detail:

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

If yes, detail action:

8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.

Treatments and Medicines Records

1. Recent treatments (see comment)?	<input type="checkbox"/>	Y
If yes, detail:	TMS Salmosan Alphamax	
If other, detail:		
2. Medicines records available for inspection?	<input type="checkbox"/>	Y
3. Are records complete and correctly entered?	<input type="checkbox"/>	Y
4. Are fish in a withdrawal period?	<input type="checkbox"/>	Y
5. If yes, what treatment(s)?	TMS Salmosan	
If other, detail:		
6. Are medicines stored appropriately?	<input type="checkbox"/>	Y

Biosecurity Records

1. Biosecurity records available for inspection?	<input type="checkbox"/>	Y
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	<input type="checkbox"/>	Y
3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any <i>increased (unexplained)</i> mortality at the site been included?	<input type="checkbox"/>	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 <i>how</i> and <i>when</i> that will be notified to Scottish Ministers?	<input type="checkbox"/>	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)?	<input type="checkbox"/>	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.)?	<input type="checkbox"/>	Y
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	<input type="checkbox"/>	Y
8. Have the biosecurity procedures been adequately implemented on site?	<input type="checkbox"/>	Y
If no, detail:		

Results of Surveillance

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

Records checked between:	28/03/2018-15/06/2021
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Case no: Site No: Date of visit/
 Sampling:

Priority samples: VI BA PA MG HI

Time sampling starts/ends: Inspector: VMD No.

Environmental conditions: 1 2 3 4 5

Summary samples HIST BA MG VI PA Total Samples

Add Fish/Pools - click

Pool/Fish No													
Fish nos	1												
Pool Group													
Species	RTR												
Average weight	2.4kg												
Sex	N/A												
Water Type	SW												
Stock Details		kinnaird mill											
	Stock Origin												
Facility No	T10												

Case Number:	2021-0209	Site No:	FS1112	Insp:		
Date of Visit	15/06/2021	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	10
	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		2
	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				
	Processing own fish (re-cycling risk)	1				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		2
	Sites sharing staff and equipment	0	1	2		2
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 Rank					24	MEDIUM

Case No:

Site No:

Sea Lice Inspection (Seawater Sites Only)

- 1. Has the site experienced sea lice problems in the previous 4 years?
- 2. Is the CoGP Farm Management Area (or equivalent) followed 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 are these being used 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 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
- 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised
- 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)

Top nets Seal pro nets Dyneema nets Weighted down ropes

If other, detail below:

- 3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection?
If Yes proceed with questions 4 – 9. If No skip to question 10
- 4. Have these been reported to Scottish Ministers?
- 5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 7. Were methods (if any) used to recover escapees? If yes give detail
- 8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, 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: 2021-0209

Site No: FS1112

Date of Visit: 15/06/2021

Inspector: [REDACTED]

Point of Compliance

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

Y

If N, no further questions require completion.

Points of Compliance for Both Farm Management Agreements and Statements

2. Has a current farm management agreement or statement (FMAg/S) been prepared?

y

3. Is the current FMAg/S available for inspection?

y

4. Does the FMAg/S identify the relevant farm management area?

y

5. Does the FMAg/S identify the fish farm site(s) to which it applies?

y

6. Does the FMAg/S identify the date of commencement of the agreement or statement?

y

7. Does the FMAg/S identify the date of review?

y

Arrangements for Fish Health Management

8. Does the FMAg/S identify the minimum health standards for the stocks to be introduced to the area or farm?

y

9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm?

y

10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm?

y

11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm?

N

12. Does the FMAg/S identify the arrangements for the storage and disposal of any dead fish from any fish farm in the area or the individual farm?

y

Arrangements for The Management of Sea Lice

13. Does the FMAg/S identify arrangements for the sharing of data on sea lice numbers and treatments?

y

14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement?

y

15. Does the FMAg/S identify any requirements for the sensitivity testing of available treatments for sea lice on farms in the area or individual farms?

y

16. Does the FMAg/S identify the circumstances under which biological controls and cleaner fish are to be used on farms in the area or individual farms?

y

17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area?

y

Live Fish Movements

18. Does the FMAg/S identify the circumstances when live fish may be introduced or removed from the area or farm?

y

19. Does the FMAg/S identify the arrangements for the movement of live fish on and off sites in the area or individual farms?

y

Harvesting

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

Fallowing

21. Does the FMAg/S identify the dates by which the area or individual farm will be fallow and the earliest date when a farm or area may be restocked?

22. Does the FMAg/S identify whether one or more year classes may be stocked onto sites covered by the agreement or statement?

23. Does the FMAg/S identify whether broodstock or potential broodstock are to be kept on any site covered by the agreement or statement?

Point of Compliance for Farm Management Agreements Only

24. Does the farm management agreement include arrangements for persons to become, or cease to be, parties to the agreement?

Management and operation

25. Is the fish farm being managed and operated in accordance with the agreement or statement?

26. What is the version no/date of issue of the FMAg/S?

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0456	DATE OF VISIT	15/06/2021
SITE No	FS1112	SITE NAME	Etive 4
CASE No	20210209	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.

Mortality records were inspected and found to be adequately maintained.

Reports detailing the results of animal health surveillance carried out by or on behalf of the business and/or Marine Scotland were available for inspection.

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

Inspection under the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2015

Medicine records were inspected and found to be adequately maintained.

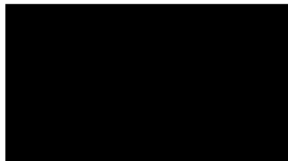
Samples were taken to be analysed for veterinary residues.

Inspection under the Aquaculture and Fisheries (Scotland) Act 2007

The site was also inspected in accordance with the Aquaculture and Fisheries (Scotland) Act 2007, as amended, with respect to section 3 regarding parasites (sea lice), section 4A regarding fish farm management agreements and statements and section 5 regarding containment and escapes.

On this occasion the site was found to be satisfactory with regards to parasites, fish farm management agreements and statements and containment and escapes.

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



Signed:

Date: 25/10/2021

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/>

Case No: 2021-0210 Date of visit: 15/06/2021

Time spent on site: 3 hours Main Inspector: [Redacted]

Site No: FS1288 Site Name: Etive 6
Business No: FB0456 Business Name: Dawnfresh Farming Ltd

Case Types: 1 ECI 2 CNI 3 SLI 4 VMD 5 [] 6 []

Water Temp (°C): 12.2 Thermometer No: T155 FHI 045 completed []

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

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:
[Redacted]

Additional Case Information:

all fish sampled for VMD appeared healthy and showed no clinical signs of disease.

Peaks in mortality

Week 9 - 2020 - 4939 - Seal - 0.97%

week 3 - 2020 - 4567 seal - 0.85%

Water was murky on site, lots of fresh water present in the loch. Fish appeared to be in good condition.

Case No: Site No:

Date of Visit: Inspector(s):

Registration/Authorisation Details

1. Business/site details summary checked by site representative?

2. Changes made to details?

Site Details (include cleaner fish for all sections)

Total No facilities	<input type="text" value="10"/>	Facilities stocked	<input type="text" value="7"/>	No facilities inspected	<input type="text" value="7"/>
Species	<input type="text" value="RTR"/>	<input type="text" value="RTR"/>			
Age group	<input type="text" value="2018"/>	<input type="text" value="2019"/>			
No Fish	<input type="text" value="305,180"/>	<input type="text" value="254,082"/>			
Mean Fish Wt	<input type="text" value="3.5jg"/>	<input type="text" value="2.4kg"/>			
Next Fallow Date (Site)	<input type="text" value="march 2022"/>		Next Input Date (Site)	<input type="text" value="Apr-20"/>	
Recent (last 4 wks) disease problems?	<input type="text" value="N"/>		Any escapes (since last visit)?	<input type="text" value="N"/>	
If yes, detail:	<input type="text" value=""/>				

Movement Records

1. Movement records available for inspection?

2. Date of last inspection:

3. Are records complete and correctly entered?

4. Are movement records available for dead fish and waste?

5. Are records complete and correctly entered?

6. Are health certificates for introductions (outwith GB) available?

Transport Records

1. Are any movements carried out by (or on behalf) of the business (not using a STB)?

If yes, is there a system in place for maintenance of transportation records?

Mortality Records

1. Mortality records available for inspection?

2. How are mortalities disposed of?

If other detail:

3. Mortality records complete and correctly entered?

4. Recent mortality (last 4 wks):

5. Evidence of recent increased/atypical mortalities?

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

6. Any other peaks in mortality during period checked?

If yes, detail:

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

If yes, detail action:

8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.

Treatments and Medicines Records

1. Recent treatments (see comment)?	<input type="checkbox"/>	Y
If yes, detail:	TMS Salmosan Alphamax	
If other, detail:		
2. Medicines records available for inspection?	<input type="checkbox"/>	Y
3. Are records complete and correctly entered?	<input type="checkbox"/>	Y
4. Are fish in a withdrawal period?	<input type="checkbox"/>	Y
5. If yes, what treatment(s)?	TMS Salmosan Alphamax	
If other, detail:		
6. Are medicines stored appropriately?	<input type="checkbox"/>	Y

Biosecurity Records

1. Biosecurity records available for inspection?	<input type="checkbox"/>	y
2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?	<input type="checkbox"/>	y
3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any <i>increased (unexplained)</i> mortality at the site been included?	<input type="checkbox"/>	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 <i>how</i> and <i>when</i> that will be notified to Scottish Ministers?	<input type="checkbox"/>	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)?	<input type="checkbox"/>	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.)?	<input type="checkbox"/>	y
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	<input type="checkbox"/>	y
8. Have the biosecurity procedures been adequately implemented on site?	<input type="checkbox"/>	y
If no, detail:		

Results of Surveillance

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

Records checked between:	12/11/2018-15/06/2021
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Case no: Site No: Date of visit/
 Sampling:

Priority samples: VI BA PA MG HI

Time sampling starts/ends: Inspector: VMD No.

Environmental conditions: 1 2 3 4 5

Summary samples HIST BA MG VI PA Total Samples

Add Fish/Pools - click

Pool/Fish No													
Fish nos	1												
Pool Group													
Species	RTR												
Average weight	3.5kg												
Sex	Mixed												
Water Type	SW												
Stock Details		rocks lodge											
	Stock Origin												
Facility No	S10												

Case Number:	2021-0210	Site No:	FS1288	Insp:		
Date of Visit	15/06/2021	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	5
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26	
	Number of suppliers	0	5	10	14	5
Movements off	Frequency of movements off	0	3	6	10	10
	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		2
	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				
	Processing own fish (re-cycling risk)	1				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		2
	Sites sharing staff and equipment	0	1	2		2
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 Rank					34	HIGH

Case No:

Site No:

Sea Lice Inspection (Seawater Sites Only)

- 1. Has the site experienced sea lice problems in the previous 4 years?
- 2. Is the CoGP Farm Management Area (or equivalent) followed 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 are these being used 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 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
- 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised
- 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)

Seal pro nets dyneema nets ADD's top nets weighted down ropes

If other, detail below:

- 3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection?
If Yes proceed with questions 4 – 9. If No skip to question 10
- 4. Have these been reported to Scottish Ministers?
- 5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 7. Were methods (if any) used to recover escapees? If yes give detail
- 8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, 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: 2021-0210

Site No: FS1288

Date of Visit: 15/06/2021

Inspector: [REDACTED]

Point of Compliance

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

If N, no further questions require completion.

Points of Compliance for Both Farm Management Agreements and Statements

2. Has a current farm management agreement or statement (FMAg/S) been prepared?

3. Is the current FMAg/S available for inspection?

4. Does the FMAg/S identify the relevant farm management area?

5. Does the FMAg/S identify the fish farm site(s) to which it applies?

6. Does the FMAg/S identify the date of commencement of the agreement or statement?

7. Does the FMAg/S identify the date of review?

Arrangements for Fish Health Management

8. Does the FMAg/S identify the minimum health standards for the stocks to be introduced to the area or farm?

9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm?

10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm?

11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm?

12. Does the FMAg/S identify the arrangements for the storage and disposal of any dead fish from any fish farm in the area or the individual farm?

Arrangements for The Management of Sea Lice

13. Does the FMAg/S identify arrangements for the sharing of data on sea lice numbers and treatments?

14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement?

15. Does the FMAg/S identify any requirements for the sensitivity testing of available treatments for sea lice on farms in the area or individual farms?

16. Does the FMAg/S identify the circumstances under which biological controls and cleaner fish are to be used on farms in the area or individual farms?

17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area?

Live Fish Movements

18. Does the FMAg/S identify the circumstances when live fish may be introduced or removed from the area or farm?

19. Does the FMAg/S identify the arrangements for the movement of live fish on and off sites in the area or individual farms?

Harvesting

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

Fallowing

21. Does the FMAg/S identify the dates by which the area or individual farm will be fallow and the earliest date when a farm or area may be restocked?

22. Does the FMAg/S identify whether one or more year classes may be stocked onto sites covered by the agreement or statement?

23. Does the FMAg/S identify whether broodstock or potential broodstock are to be kept on any site covered by the agreement or statement?

Point of Compliance for Farm Management Agreements Only

24. Does the farm management agreement include arrangements for persons to become, or cease to be, parties to the agreement?

Management and operation

25. Is the fish farm being managed and operated in accordance with the agreement or statement?

26. What is the version no/date of issue of the FMAg/S?

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0456	DATE OF VISIT	15/06/2021
SITE No	FS1288	SITE NAME	Etive 6
CASE No	20210210	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 high. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted annually. The category of the site will be reassessed on a routine basis and updated as required.

The information required for the public record of aquaculture production businesses regarding this site was verified and where necessary updated. The following records were also inspected to ensure that the conditions of authorisation for your Aquaculture Production Business (APB) are being met:

Aquaculture animal and aquaculture animal product movement records were inspected and appeared to be adequately maintained.

Mortality records were inspected and found to be adequately maintained.

Reports detailing the results of animal health surveillance carried out by or on behalf of the business and/or Marine Scotland were available for inspection.

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

Inspection under the Animals and Animal Products (Examination for Residues and Maximum Residue Limits) (England and Scotland) Regulations 2015

Medicine records were inspected and found to be adequately maintained.

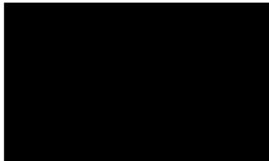
Samples were taken to be analysed for veterinary residues.

Inspection under the Aquaculture and Fisheries (Scotland) Act 2007

The site was also inspected in accordance with the Aquaculture and Fisheries (Scotland) Act 2007, as amended, with respect to section 3 regarding parasites (sea lice), section 4A regarding fish farm management agreements and statements and section 5 regarding containment and escapes.

On this occasion the site was found to be satisfactory with regards to parasites, fish farm management agreements and statements and containment and escapes.

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



Signed:

Date: 25/10/2021

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/>

Case No:	2021-0217	Date of visit:	22/06/2021			
Time spent on site:	4h	Main Inspector:				
Site No:	fs1245	Site Name:	Tayside			
Business No:	FB0544	Business Name:	Scotland			
Case Types:	1 REP	2 DIA	3	4	5	6
Water Temp (°C):	12.7	Thermometer No:	T173	FHI 045 completed		
Observations:	Region:	TA	Water type:	B	CoGP MA	
Dead/weak/abnormally behaving fish present?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	<input type="checkbox"/>	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="checkbox"/>					

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

Additional Case Information:

The North Esk was visited following reports of a large number of dead salmon being observed in a stretch of river (NO 60127 70736)

Saprolegnia reported to be evident late April onwards. Three moribund fish were observed in the pool however only one could be caught for sampling.

Over 100 mortalities were counted the previous week but a high number have been predated on. Over a dozen dead fish were counted in the pools.

It was reported that saprolegnia was observed on many of the mortalities mainly around the mouth and gills, the fish that was sampled was lethargic with some haemorrhaging and lesions but only a minor saprolegnia infection was evident, the gill filaments were zoned in appearance with very pale tips. Internally the heart was slightly swollen and spleenomegally was evident.

Site visit conducted with [REDACTED] streaked the following plates, FLP spleen and lesion, TSA lesion and kidney and in addition took molgen and virology sample supervised by [REDACTED]. All remaining samples completed by [REDACTED]. Paperwork completed by [REDACTED]

Case No: 2021-0217

Site No: fs1245

Date of Visit: 22/06/2021

Inspector(s):

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities	Facilities stocked	No facilities inspected
Species		
Age group		
No Fish		
Mean Fish Wt		
Next Fallow Date (Site)	Next Input Date (Site)	
Recent (last 4 wks) disease problems?	Any escapes (since last visit)?	
If yes, detail:		

Movement Records

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

Transport Records

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

Mortality Records

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

Treatments and Medicines Records

1. Recent treatments (see comment)?	
If yes, detail:	
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 <i>increased (unexplained)</i> 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 <i>how</i> and <i>when</i> that will be notified to Scottish Ministers?	
5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?	
6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?	
7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?	
8. Have the biosecurity procedures been adequately implemented on site?	
If no, detail:	

Results of Surveillance

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

Records checked between:	n/a
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Case no: Site No: Date of visit/
Sampling:

Priority samples: VI BA PA MG HI

Time sampling starts/ends: Inspector: VMD No.

Environmental conditions: 1 2 3 4 5

Summary samples HIST BA MG VI PA Total Samples

Add Fish/Pools - click

Pool/Fish No	F1	P1										
Fish nos	1	1										
Pool Group	P1	P1										
Species	SAL	SAL										
Average weight	3.5kg	3.5kg										
Sex	N/A	N/A										
Water Type	FW	FW										
Stock Details												
		North Esk	North Esk									
Stock Origin												
Facility No	N/A	N/A										

Additional comments:

Small lesions on the tail, flank and around the head.

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0544	DATE OF VISIT	22/06/2021
SITE No	FS1245	SITE NAME	Tayside
CASE No	20210217	INSPECTOR	[REDACTED]

Section 1: Summary

The North Esk river was visited due to reports of dead and moribund fish being observed. One fish was caught by hand net in a pool and removed for further examination and subsequent diagnostic sampling.

Histopathology examination revealed very mild, focal, proliferative gill pathology and mild ulcerative dermatitis. Gill tissue samples tested positive for *Salmon gill poxvirus* and *Paranucleospora theridion* by QPCR.

No parasites were observed on the fin but two white Anisakid worms, consistent with *Anisakis* sp., were observed free in the musculature and dermis around the vent opening.

Pseudomonas fluorescens was identified on plates taken from lesion and gill material, this bacterium would not be implicated in morbidity in this case.

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

Section 2: Case Detail

Observations

The North Esk was visited following reports of a large number of dead salmon being observed in a stretch of river (NO 60127 70736). A meeting was arranged with the director of the Esk River and Fisheries Trust to investigate the mortality event and attempt to catch and sample moribund fish.

Saprolegnia was reported to be evident from late April onwards. However, the majority of these fish had died and been predated on by the time of the inspection. On inspection of a stretch of river, a number of dead fish were observed along with three moribund fish in a pool, one was caught for further examination and subsequent diagnostic sampling.

The fish sampled was moribund, lethargic and appeared dark. There was haemorrhaging evident on the base of the fins and small lesions on the tail, flank and around the head. The gills appeared zoned and necrotic.

Internally, the heart appeared slightly deformed and splenomegaly was evident with some granulomas also present.

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Samples

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

Fish number	Species	Stage	Origin
1	Atlantic Salmon	Grilse/Broodstock	North Esk

Results

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

The following bacteria were isolated from the fish:

Pseudomonas fluorescens

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	19.9	34.75	34.56	34.88	Positive

Due to failure of the endogenous control, tests for the following pathogens were inconclusive, infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), salmonid alphavirus (SAV) and viral haemorrhagic septicaemia virus (VHSV).

A general screen was conducted on tissue samples to test for the presence of viral pathogens by cell culture. The result of this test was negative.

Parasitology: A fin was collected to determine the presence of *Gyrodactylus salaris* using light microscopy. No *G. salaris* parasites were detected in the samples examined.

A sample of vent was collected to determine the presence of parasites. Two white Anisakid worms, consistent with *Anisakis* sp., were observed free in the musculature and dermis around the vent opening.

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

Paranucleospora theridion

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	19.9	35.68	36.77	37.26	Positive

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

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

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Tissues were examined by light microscopy. The following histopathological changes were observed:

Gill: Small focal area of interlamellar hyperplasia, lamellar fusion, several lacunae on the hyperplastic plaques, some spongiosis and some haemorrhage.

Skin & Muscle: Lesion: Absence of epidermal layer, mild inflammatory cell infiltration and some dermal haemorrhage noted on the dermis and hypodermis.

Heart: Within normal range.

Gut and pyloric caeca: Within normal range.

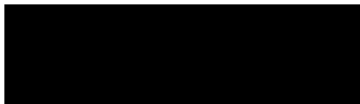
Pancreas: Within normal range.

Liver: Within normal range.

Kidney: Within normal range

Spleen: Slightly congested.

Signed:



Fish Health Inspector

Date: 09/09/2021

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/>