

Case No: 2020-0306 Date of visit: 27/07/2020

Time spent on site: 3 hours Main Inspector:

Site No: FS1240 Site Name: Highland  
Business No: FB0544 Business Name: Scotland

Case Types: 1 DIA 2 3 4 5 6

Water Temp (°C): 11 Thermometer No: Site FHI 045 completed N/A

Observations: Region: HI Water type: B CoGP MA

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:**

Moribund fish from the Alness River. Fish was received alive from a member of the Cromarty DSFB. Original communication regarding the fish were sent to the DI on the 27/07/2020.

The fish was caught at NH 65584 68964.

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 Kg	3 Kg										
Sex	N/A	N/A										
Water Type	FW	FW										
Stock Details		River Forss										
		River Forss										
Stock Origin												
Facility No	N/A	N/A										

07/2020 Additional Sample Information:  
Samples for IMR not in sample info. Labeling key in additional info. Blood sample, 10%NBF, Karnovskys fixative x 15, RNA later x15. Extra samples for MSS include scale samples, 2x RNA (heart and kidney) and 1xred skin. DNA; 1xgills, 1xred skin. Two histo pots, 1x general, 1x red skin, BA - TSA/TSA +NACI - G/L FMM - K/L FLP - S/L

2 Total Tests assigned 2


Case no: 2020-0306

Site No: FS1240

Method of killing: Percussive

Date of visit: 27/07/2020

Inspector(s):

Sheet Relevant: Y

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

Fish Number	F1								
Time sampled after death (if > 45 minutes)	5 min								
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	M							
	Zoned	M							
	Necrotic								
Lesions	Flank	S							
	Elsewhere	S							
Vent	Inflamed								
	Trailing faeces								
Lice Load	Estimate numbers								
Internal Signs									
Ascites	Clear								
	Bloody								
Oedema	In tissues								
Heart	Pale/anaemic								
	Granulomas								
	Deformed								
Liver	Petechial haem	M							
	Gross haem								
	Tissue breakdown								
	Enlarged								
	Colour number(s)								
	Granulomas								
	Lesions								
Pyloric caeca	Petechial haem								
	Tubules mauve								
	Lack of fat								
Spleen	Enlarged	S							
	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								

Case no: 2020-0306

Date of visit: 27/07/2020

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

<b>Fish Number</b>										
<b>Time sampled after death (if &gt; 45 minutes)</b>										
<b>External Signs</b>										
<b>Behaviour</b>	<b>Moribund</b>									
	<b>Lethargic</b>									
	<b>Hanging vertical</b>									
	<b>Spiralling</b>									
	<b>Flashing</b>									
	<b>Loss of equilibrium</b>									
<b>Body</b>	<b>Dark</b>									
	<b>Distended abdomen</b>									
	<b>Anorexic</b>									
	<b>Scale Oedema</b>									
<b>Opercula</b>	<b>Shortened</b>									
	<b>Flared</b>									
<b>Haemorrhaging</b>	<b>Throat</b>									
	<b>Ventrum</b>									
	<b>Base of fins</b>									
	<b>Elsewhere</b>									
<b>Eyes</b>	<b>Exophthalmic</b>									
	<b>Enophthalmic (sunken)</b>									
	<b>Cataract</b>									
	<b>Haemorrhagic</b>									
<b>Gills</b>	<b>Pale</b>									
	<b>Zoned</b>									
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<b>Lesions</b>	<b>Flank</b>									
	<b>Elsewhere</b>									
<b>Vent</b>	<b>Inflamed</b>									
	<b>Trailing faeces</b>									
<b>Lice Load</b>	<b>Estimate numbers</b>									
<b>Internal Signs</b>										
<b>Ascites</b>	<b>Clear</b>									
	<b>Bloody</b>									
<b>Oedema</b>	<b>In tissues</b>									
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	<b>Granulomas</b>									
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	<b>Colour number(s)</b>									
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	<b>Granulomas</b>									
<b>Gut</b>	<b>No food present</b>									
	<b>Yellow pseudo-faeces</b>									
	<b>External haem</b>									
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<b>Body wall</b>	<b>Haemorrhaging</b>									
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	<b>Fluid filled</b>									
<b>Kidney</b>	<b>Swollen</b>									
	<b>Grey</b>									
	<b>Granular</b>									
	<b>Liquefied</b>									
<b>General</b>	<b>Parasites present</b>									
	<b>Anaemia</b>									

Additional comments:

Site No: FS1240
Case No: 2020-0306
Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology



Case No: **2020-0306** Date of visit: **27/07/2020**  
 Site No: **FS1240** Inspector: **[Redacted]**

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2 <sup>nd</sup> Insp
YRUK	1/1	25/08/2020	[Redacted]	17/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
PSFL	1/1	25/08/2020	[Redacted]	17/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
NSIG	1/1	25/08/2020	[Redacted]	17/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
SKIN	1/1	25/08/2020	[Redacted]	17/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
SPAT	1/1	25/08/2020	[Redacted]	17/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
SAPR	1/1	25/08/2020	[Redacted]	17/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
IPNM	0/1	25/08/2020	[Redacted]	05/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
SALP	0/1	25/08/2020	[Redacted]	05/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
VHSP	0/1	25/08/2020	[Redacted]	05/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
IHNP	0/1	25/08/2020	[Redacted]	05/08/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
SALP	0/1	03/08/2020	[Redacted]	03/09/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
NEMA	1/1	02/09/2020	[Redacted]	03/09/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
ANIP	1/1	02/09/2020	[Redacted]	03/09/2020	[Redacted]	23/01/2024	[Redacted]	[Redacted]
GSAL	0/1	23/01/2024	[Redacted]			23/01/2024	[Redacted]	[Redacted]

Report Summary			
Case Type	Date	Insp	2 <sup>nd</sup> Insp
DIA	23/01/2024	[Redacted]	[Redacted]



# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0544	<b>DATE OF VISIT</b>	27/07/2020
<b>SITE No</b>	FS1240	<b>SITE NAME</b>	Highland – River Alness
<b>INSPECTOR</b>	██████████	<b>CASE No</b>	20200306

### Section 1: Summary

A moribund fish was found on the River Alness and removed for diagnostic sampling.

Histopathology examination revealed mild dermatitis with associated *Saprolegnia*-like hyphae and the presence of Nematodes (likely an *Ascaridida*) in the abdominal wall.

*Yersinia ruckeri* and *Pseudomonas fluorescens* were identified. The level and purity of growth would not suggest either would be implicated in fish morbidity.

Several nematode larvae were observed free in the musculature around the vent and were identified as *Anisakis* sp.

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

A moribund fish was caught on the River Alness and diagnostic samples were collected.

The fish had pale, zoned gills and skin lesions on the flank. Internally, there was petechial haemorrhaging on the liver and the spleen was enlarged.

#### Samples

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

Fish number	Pool number	Facility number	Species	Stage	Origin
F1	P1	N/A	Atlantic salmon	3kg	Wild – River Alness

#### Results

**Bacteriology:** Kidney, gill, spleen and lesion material from F1 were inoculated onto appropriate media for the isolation of bacteria.

R09

The following bacteria were isolated from F1:

- *Yersinia ruckeri* (Lesion)
- *Pseudomonas fluorescens* (Gill)

The level and purity would not suggest either would be implicated in fish morbidity. No growth was observed on plates taken from kidney or spleen material.

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

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious pancreatic necrosis virus (IPNV), salmonid alphavirus (SAV), viral haemorrhagic septicemia virus (VHSV) and Salmon gill poxvirus (SGPV).

**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.

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 F1. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Within normal range.

Skin & Muscle: One lesion displayed partial absence of epidermal layer and the upper layer of dermis exhibited mild focal inflammatory cell infiltration and few scattered hyphae-like rings (likely *Saprolegnia*). The white skeletal muscle displayed degeneration of few myofibrils.

Heart: Within normal range.


Gut and pyloric caeca: Presence of three *Anisakis*-like cysts displaying mild granulomatous inflammation.

Pancreas: Within normal range.

Liver: Mild multifocal hepatocyte vacuolation.

Kidney: Within normal range.

Spleen: slightly congested and focal mild reduction white pulp.

Signed: p.p. 

Date: 23/01/2024

  
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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