

Case No:	<input type="text" value="2022-0140"/>	Date of visit:	<input type="text" value="11/05/2022"/>			
Time spent on site:	<input type="text" value="6.5 hours"/>	Main Inspector:	<input type="text" value=""/>			
Site No:	<input type="text" value="FS0234"/>	Site Name:	<input type="text" value="Torridon"/>			
Business No:	<input type="text" value="FB0119"/>	Business Name:	<input type="text" value="Mowi Scotland Ltd"/>			
Case Types:	1 <input type="text" value="ECI"/>	2 <input type="text" value="CNA"/>	3 <input type="text" value="SLI"/>	4 <input type="text" value="VMD"/>	5 <input type="text" value=""/>	6 <input type="text" value=""/>
Water Temp (°C):	<input type="text" value="9.6"/>	Thermometer No:	<input type="text" value="T173"/>	FHI 045 completed	<input type="text" value=""/>	
Observations:	Region:	HI	Water type:	S	CoGP MA	M-17
Dead/weak/abnormally behaving fish present?	<input type="text" value="Y"/>	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	<input type="text" value="Y"/>	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	<input type="text" value="N"/>	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="text" value="N"/>					

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

**Additional Case Information:**

Additional peaks in mortality 2020 Wk 45 - 11,275 (2.08%) due to gill infections (10,074) and anaemia (1,201). 2020 Wk 46 - 17,884 (3.82%) due to gill infections (8,735) and FW treatment loss (9,149). Mortalities reduced significantly the following weeks.

Lumpfish mortalities - For April total mortality 2,595 (4.78%). Other peaks in mortality - Nov 2020 9,700 (8.38%) (7,692 transport losses), Dec 2020 5,165 (5.91%) (mainly without diagnosis), Jan 2021 4,522 (11.54%) (mainly without diagnosis, some handling sea lice mortality). Following discussion with the manager it was confirmed that the mortalities recorded without diagnosis should have been recoded as post treatment mortalities.

1 side swimmer and 1 mort observed. Not removed for sampling.

Paperwork (ECI,SLI,VMD) completed by ■■■■, supervised by ■■■■. CNA completed by ■■■■, observed by ■■■■. VMD completed by ■■■■. Site inspected by ■■■■ and ■■■■ 11/05/2022.

Case No: **2022-0140** Site No: **FS0234**  
 Date of Visit: **11/05/2022** Inspector(s): **[REDACTED]**

**Registration/Authorisation Details**

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

**Site Details (include cleaner fish for all sections)**

Total No facilities	<b>10</b>	Facilities stocked	<b>10</b>	No facilities inspected	<b>10</b>
Species	<b>SAL LUM</b>				
Age group	<b>2021 Q4 2021</b>				
No Fish	<b>902,853 50,691</b>				
Mean Fish Wt	<b>1.35kg N/A</b>				
Next Fallow Date (Site)	<b>July 2023</b>	Next Input Date (Site)	<b>Dec 2023</b>		
Recent (last 4 wks) disease problems?	<b>N</b>		Any escapes (since last visit)?	<b>N</b>	
If yes, detail:	<b>[REDACTED]</b>				

**Movement Records**

- 1. Movement records available for inspection? **Y**
- 2. Date of last inspection: **26/02/2020**
- 3. Are records complete and correctly entered? **Y**
- 4. Are movement records available for dead fish and waste? **Y**
- 5. Are records complete and correctly entered? **Y**
- 6. Are health certificates for introductions (outwith GB) available? **N/A**

**Transport Records**

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

**Mortality Records**

- 1. Mortality records available for inspection? **Y**
- 2. How are mortalities disposed of? **Incinerated - on site**
- If other detail: **[REDACTED]**
- 3. Mortality records complete and correctly entered? **Y**
- 4. Recent mortality (last 4 wks): **SAL: Wk 15 - 859 (0.09%), Wk 16 - 873 (0.1%), Wk 17 - 728 (0.08%), Wk 18 - 95 (0.01%) - main cause without diagnosis, some seal damage.**
- 5. Evidence of recent increased/atypical mortalities? **N**
- If yes, facility nos/no mortality per facility/no stock per facility/reason: **[REDACTED]**
- 6. Any other peaks in mortality during period checked? **Y**
- If yes, detail: **See additional information**
- 7. Have increased (unexplained) mortalities been reported to vet or FHI? **N/A**
- If yes, detail action: **[REDACTED]**
- 8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet. **Y**



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	1	2	3	4	5	6	7	8	9	10		
Fish nos	1	2	3	4	5	6	7	8	9	10		
Pool Group												
Species	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL	SAL		
Average weight	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg	1.3kg		
Sex	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Water Type	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW		
Stock Origin	Inchmore (FS0226)	Inchmore (FS0226)	Loch Ness (FS0434)									
Facility No	1	1	2	2	4	4	8	8	9	9		



Case Number:	2022-0140	Site No:	FS0234	Insp:		
Date of Visit	11/05/2022	No of movements/supp./dest.			Score	
<b>Live fish movements</b>		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
<b>Exposure via water</b>	<b>Site contacts</b>	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		
<b>Management practices</b>		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				0
	Common processes with other farms	3				
	Collection point for waste from other farms	5				
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0
	Feeding unpasteurised feed	5				
<b>Biosecurity</b>	<b>Number of sites</b>	1	2 or 3	≥ 4		
Contacts with other sites	Sites operating from single shorebase	0	1	2		0
	Sites sharing staff and equipment	0	1	2		0
Disinfection of equipment between sites, use of footbaths etc	Yes	0				0
	No	1				
<b>CoGP/Regulator</b>						
Practices in accordance with regulator or industry code of practice	Yes	0				0
	No	3				
Platform access to cages	Yes	0				0
	No	2				
<b>Total Rank</b>					<b>16</b>	<b>MEDIUM</b>

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

**Containment Inspection**

- 1. Has the site experienced equipment damage due to predators in the current or previous production cycles?
- 2. Are measures in place to mitigate against the predation experienced on site? (Detail below)
- If other, detail below:
- 3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection?
- If Yes proceed with questions 4 – 9. If No skip to question 10
- 4. Have these been reported to Scottish Ministers?
- 5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 7. Were methods (if any) used to recover escapees? If yes give detail
- 8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, CoGP – 4.4.38, 5.4.18)
- 9. What action was taken to prevent and minimise the risk of further escapes? (Not covered in code but could be considered under satisfactory measures of the Act)
- 10. Is the site inspected as satisfactory with regards to containment? If no, please detail reason(s)

Case No: 2022-0140

Site No: FS0234

Date of Visit: 11/05/2022

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?

Case No: 2022-0140 Site No: FS0234

Date of visit: 11/05/2022 Inspector(s):

Point of compliance	Risk level	Satisfactory?	Requirement	Comments and advice given or action taken if necessary
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**ENHANCED CONTAINMENT INSPECTION (SEAWATER)**

**a. Enquiry relating to i) escape incidents and ii) contingency procedures**

1.1. Have escape incidents or events <sup>1</sup> been experienced on or in the vicinity of the site since the last MSS inspection?		N		
<b>If yes answer 1.2-1.8:</b>				
1.2. Have appropriate reports been made to Scottish Government within 24 hours of discovery?	High		AAAH Regs <sup>4</sup> 31D,E	
1.3. Have these been reported to the SSPO <sup>2</sup> and, where in existence, the local DSFB and fisheries trust?	Medium		CoGP 4.4.37, 5.4.17	
1.4. Were methods (if any) used to recover escapees? If yes give detail				
1.5 Was the decision to attempt to recapture and the method employed agreed with the local DSFB and FT	Low		CoGP 4.4.38, 5.4.18	
1.6. Was permission sought from Marine Scotland prior to recapture?	Medium		CoGP 4.4.38, 5.4.18	
1.7 Were the gill nets deployed in accordance with the permission issued by Marine Scotland?	Low		CoGP 4.4.38, 5.4.18	
1.8. In light of the escape event, has appropriate action been taken to prevent and minimise the risk of further escapes?	High			
1.9. Is there a site specific contingency plan in response to failures in containment, aimed at preventing escapes and recovering escaped fish?	High	Y	SSI, 2,9	

**b(i). Inspection of records relating to equipment, facilities and the site**

General records			CoGP: 4.4.9, 4.4.14, SSI 2,1		
2.1 With regard to each facility, net, screen and mooring at each site, a record should be maintained of:-			Facilities	Moorings	Nets
a) The name of the manufacturer	Low		Y	Y	Y
b) Any special adaptations	Low		N/A	N/A	N/A
c) The name of the supplier	Low		Y	Y	Y
d) The date of purchase	Low		Y	Y	Y

Point of compliance	Risk level	Satisfactory?	Requirement	Comments and advice given or action taken if necessary
e) Each inspection including i) the name of the person conducting the inspection ii) the date of each inspection iii) the place of each inspection iv) the outcome of each inspection f) the date and result of each repair, equipment test and antifouling treatment carried out	Low Medium Low High High	Y Y Y Y Y	Y Y Y Y Y	
2.2. In relation to each net a record of:	Medium Medium Medium Low	Y Y Y Y	SSI, 2,2	
2.3. In relation to each facility a record of:	Low Low Low	Y Y Y	SSI, 2,3	
2.4. In relation to each mooring a record of-	Low Low Low	N N N	SSI, 2,4	
2.5. A record of any navigation markers deployed at each site at which fish are farmed	Low	Y	SSI, 2,5	
2.6 In respect of sites at which fish are farmed in inland waters <sup>3</sup>	Low Low Low Low	N/A N/A N/A N/A	SSI, 2,6	
a) The type, method of and date of construction of any flood prevention or flood defence measures in place	Low	N/A		
b) The date of and results of any tests conducted on any such measures	Low	N/A		
c) The date of any incident where the site was flood	Low	N/A		
d) The water course height during any such flood incident	Low	N/A		
2.7 A record of-	Medium	Y	SSI, 2,7 SSI, 2,11 (a)	
a) The date of any severe weather event which caused damage to any facility, net or mooring	Medium	Y	SSI, 2,11 (a)	
b) Any action taken to rectify any such damage	High	Y	SSI, 2,11 (b)	
Pen and mooring systems	High	Y	CoGP 4.4.8, 4.4.13	
2.8 Are there documented procedures maintained regarding the selection and installation of pens and moorings?	High	Y	CoGP 4.4.8, 4.4.13	

Point of compliance	Risk level	Satisfactory?	Requirement	Comments and advice given or action taken if necessary
2.9 Can the site demonstrate evidence that the design specification of pens and moorings are suitable for purpose and correctly installed?	High	Y	CoGP 4.4.9, 4.4.14	
2.10 Do pen systems meet the manufacturers guidelines?	High	Y	CoGP 4.4.10	
2.11 Are pen systems inspected and approved by suitably qualified / experienced person(s)?	High	Y	CoGP 4.4.11	
2.12 Is there evidence of the competence of personnel involved in the design, installation and maintenance of pen and mooring systems?	High	Y	CoGP 4.4.12, 4.4.15	
2.13 Are pen and mooring components inspected with a) a documented SOP b) a documented inspection plan based on a risk assessment	High	Y	CoGP 4.4.16	
2.14 Do all nets used on site meet industry standards?	High	Y	CoGP 4.4.17	
2.15 Can the site demonstrate an awareness of the minimum fish size in relation to net size	High	Y	CoGP 4.4.19	
2.16 Does the net design, quality and standard of manufacture take into account the conditions that are likely to be experienced on site and include adequate safety margins?	High	Y	CoGP 4.4.20	
2.17 Are nets treated with a UV inhibitor?	Low	Y	CoGP 4.4.21	
2.18 Are nets tested at a pre-determined frequency?	High	Y	CoGP 4.4.22	
2.19 Is the method of test procedure based upon the manufacturers advice?	High	Y	CoGP 4.4.22	
2.20 Are frequent net inspections conducted to look for damage?	High	Y	CoGP 4.4.23	
2.21 Are net inspection records maintained?	High	Y	CoGP 4.4.23	
2.22 Is the system by which nets are attached to the pen and weighted inspected frequently?	High	Y	CoGP 4.4.24	
2.23 Where damage to nets and/or associated fittings has occurred, or the potential for damage exists, has remedial action been taken?	High	Y	CoGP 4.4.25	
<b>b(ii). Inspection of records relating to training</b>				
3.1 Are training programmes and plans relevant to the various onsite activities documented?	High	Y	CoGP 7.1.8	
3.2 Is there a satisfactory record of all training and qualifications for each person working at the site in relation to any boat operations? (This excludes well boat operations)	High	Y	SSI 2,6,a	



Point of compliance	Risk level	Satisfactory?	Requirement	Comments and advice given or action taken if necessary
5.3 Do nets carry numbered ID tags?	Low	Y	SSI 2,2 ii	Weighted Seal pro nets and seal blinds
Look at a percentage of nets on site - Does the net location meet the inventory?	Low	Y		
5.4 Are nets stored away from direct sunlight?	Low	Y	CoGP 4.4.21	
5.6 Are appropriate measures in place to mitigate predation on site? (Provide detail if necessary)		Y		
5.7 Are boat operations conducted in such a manner which prevents damage to nets and pens?	High	Y	CoGP 4.4.28	
5.8 Is there a requirement for navigation markers to be deployed?	Low	Y	MSA <sup>5</sup> 2010 P4, S21	
5.9 If yes, has this been done in accordance with the necessary requirements?	Low	Y	MS Marine licence	
5.10 If Yes to 5.8 is there a record of any navigation markers deployed?	Low	Y	SSI 2,5	
<b>d. Inspection of site specific procedures</b>				
6.1 Are pen nets examined for holes, tears or damage prior to and during the stocking, moving or crowding of fish?	High	Y	CoGP 4.4.31	
6.2 If helicopter transfer of fish is conducted are receiving pen(s) properly prepared:-			CoGP 4.4.32	
a) nets should be secure	High	N/A		
b) pens should be marked with buoys clearly visible from the air	High	N/A		
c) radio contact between farm staff and helicopter crew should be maintained or where this is not possible, pens receiving fish should be manned	High	N/A	CoGP 4.4.33	
Consideration should be given to all other site procedures being undertaken during the visit with respect to containment and the risk of fish farm escapes				

Point of compliance	Risk level	Satisfactory?	Requirement	Comments and advice given or action taken if necessary
<b>Additional actions</b>	<b>Powers</b>			<b>Comments and advice given or action taken if necessary</b>
<b>e) Collection of samples</b> If necessary collect samples. Indicate if samples have been taken and detail what those samples are and the purpose of their collection	Power granted under the Act – section 5 (3) (a)			
<b>h) Enforcement Notice.</b> If an enforcement notice has been issued then maintain a copy / duplicate and record detail Guidance on completing the Enforcement Notice	Power granted under the Act – Section 6 (2)			

1 An 'escape event' can be defined as any circumstances on or in the vicinity of a fish farm which are believed to have caused an escape, or which may have given rise to a significant risk of an escape of fish.

2 FHI interpretation – Informing the SSPO is only a requirement where the site belongs to an Authorised Production Business which is signed up to the CoGP.

3 being waters which do not form part of the sea or any creek, bay or estuary or of any river as far as far as the tide flows

4 The Aquatic Animal Health (Scotland) Regulations 2009 (as amended)

5 The Marine Scotland Act 2010



# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0119	<b>DATE OF VISIT</b>	11/05/2022
<b>SITE No</b>	FS0234	<b>SITE NAME</b>	Torridon
<b>CASE No</b>	20220140	<b>INSPECTOR</b>	[REDACTED]

### ENHANCED CONTAINMENT INSPECTION

An enhanced inspection to ascertain the risk of escape from the fish farm was conducted in accordance with the Aquaculture and Fisheries (Scotland) Act 2007.

The visit consisted of an inspection of facilities, records and the provision of advice.

#### **a) Inspection of i) escape incidents and ii) contingency procedures**

The site meets the requirement of current Scottish industry best practice. No recommendations made or further action required.

#### **b)i) Inspection of records relating to equipment, facilities and the site**

The following recommendations is made for improvement.

**To meet the requirements of schedule 2, section 4 of the Fish Farming Businesses (Record Keeping) (Scotland) Order 2008 (RKO), in relation to each mooring, a record must be kept of:**

- i) The date of installation;**
- ii) The design and weight of the anchors;**
- iii) The length of the mooring ropes or chains.**

#### **b)ii) Inspection of records relating to training**

The site meets the requirement of current Scottish industry best practice. No recommendations made or further action required.

#### **c) Inspection of site and site equipment**

The site meets the requirement of current Scottish industry best practice. No recommendations made or further action required.

#### **d) Inspection of site specific procedures**

The site meets the requirement of current Scottish industry best practice. No recommendations made or further action required.

The recommendation in this report should be implemented by 12<sup>th</sup> August 2022. Documentation should be provided as evidence that the recommendation has been implemented. Enforcement action may result if the recommendation is not implemented in the necessary time frame.

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

Signed:

A black rectangular box redacting the signature of the Fish Health Inspector.

Date: 08/06/2022

Fish Health Inspector

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

## FISH HEALTH INSPECTORATE VISIT REPORT

### SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0119	<b>DATE OF VISIT</b>	11/05/2022
<b>SITE No</b>	FS0234	<b>SITE NAME</b>	Torridon
<b>CASE No</b>	20220140	<b>INSPECTOR</b>	[REDACTED]

#### Case completion report

Recommendations in relation to the above case were made for implementation by 12<sup>th</sup> August 2022. Following submission of the required documentation, evidence has now been provided to Marine Scotland to demonstrate that the recommendations have been implemented.

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

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

Signed:

[REDACTED]

Date: 05/07/2022

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/>

# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0119	<b>DATE OF VISIT</b>	11/05/2022
<b>SITE No</b>	FS0234	<b>SITE NAME</b>	Torridon
<b>CASE No</b>	20220140	<b>INSPECTOR</b>	

### 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.

Records in relation to aquaculture animals transported by the business were inspected and found to be adequately maintained.

Mortality records were inspected and found to be adequately maintained.

Mortality levels had exceeded the reporting criteria since the last inspection and had been reported to the Fish Health Inspectorate as required.

Reports detailing the results of animal health surveillance carried out by or on behalf of the business and/or Marine 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.

An enhanced containment inspection was conducted. A separate report will be issued in due course.

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

Signed:



Date: 08/06/2022

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: 2022-0167 Date of visit: 19/05/2022

Time spent on site: 4 hrs 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): 12.7 Thermometer No: T308 FHI 045 completed

Observations: Region: HI Water type: B CoGP MA

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

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

**Additional Case Information:**

Grid reference: NJ 00319 49238

Diagnostic sampling conducted on a tributary of the Findhorn; River Divie.

Following a call from the director of the Findhorn nairn and Lossie Fisheries Trust reporting that within 7-10 days ~400 wild salmon were found with severe signs of a fungus-like infection. In addition, there has been a sharp increase of mortalities potentially linked to the gross pathology seen on the fish. As a result inspectors conducted a 5 fish diagnostic test. Anglers had been fishing in the morning prior to the inspection and caught 6 fish; one of which was healthier looking. These fish were kept alive in a keep net and deeper pool of the river prior to inspectors arriving.

See clinical score sheet for more information regarding the condition, externally and internally of the fish sampled.

████ conducted diagnostics sampling and █████ conducted bacteriology plates on 17/05/2022.

Case No: **2022-0167** Site No: **FS1240**  
 Date of Visit: **19/05/2022** Inspector(s): **[REDACTED]**

**Registration/Authorisation Details**

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

**Site Details (include cleaner fish for all sections)**

Total No facilities	<b>N/A</b>	Facilities stocked	<b>N/A</b>	No facilities inspected	<b>N/A</b>
Species	<b>SAL</b>				
Age group	<b>N/A</b>				
No Fish	<b>5</b>				
Mean Fish Wt	<b>3-4kg</b>				
Next Fallow Date (Site)	<b>N/A</b>	Next Input Date (Site)	<b>N/A</b>		
Recent (last 4 wks) disease problems?		Y	Any escapes (since last visit)?		<b>N/A</b>
If yes, detail:	<b>Fungus and haemorrhaging on belly</b>				

**Movement Records**

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

**Transport Records**

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

**Mortality Records**

1. Mortality records available for inspection? **N/A**  
 2. How are mortalities disposed of? **Other (detail)**  
 If other detail: **disposed along the side of the river at killing point.**  
 3. Mortality records complete and correctly entered? **N/A**  
 4. Recent mortality (last 4 wks): **past 7-10 days (from 18/05/2022) approx. 400 fish**  
 5. Evidence of recent increased/atypical mortalities? **N/A**  
 If yes, facility nos/no mortality per facility/no stock per facility/reason:  
**[REDACTED]**  
 6. Any other peaks in mortality during period checked? **N/A**  
 If yes, detail: **[REDACTED]**  
 7. Have increased (unexplained) mortalities been reported to vet or FHI? **N/A**  
 If yes, detail action: **[REDACTED]**  
 8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet. **Y**

**Treatments and Medicines Records**

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

**Biosecurity Records**

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

**Results of Surveillance**

- 1. Has any animal health surveillance been carried out by, or on behalf of, the business? N/A
- 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:

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							
Fish nos	1	2	3	4	5							
Pool Group												
Species	SAL	SAL	SAL	SAL	SAL							
Average weight	3Kg	3Kg	3Kg	3Kg	3Kg							
Sex												
Water Type	FW	FW	FW	FW	FW							
Stock Details	River Findhorn FS1240	River Findhorn FS1241	River Findhorn FS1242	River Findhorn FS1243	River Findhorn FS1244							
	Stock Origin											
Facility No												



Case no: 2022-0167

Site No: FS1240

Method of killing: Percussive

Date of visit: 19/05/2022

Inspector(s):

Sheet Relevant: Y

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

Fish Number		1	2	3	4	5				
Time sampled after death (if > 45 minutes)		0mins	0mins	15mins	20mins	20mins				
<b>External Signs</b>										
Behaviour	Moribund	S	S	S	S	W				
	Lethargic	M	M	M	M					
	Hanging vertical									
	Spiralling									
	Flashing									
	Loss of equilibrium									
Body	Dark									
	Distended abdomen									
	Anorexic									
	Scale Oedema									
Opercula	Shortened									
	Flared									
Haemorrhaging	Throat									
	Ventrum	M			S					
	Base of fins	M	S	M	S	M				
	Elsewhere			W						
Eyes	Exophthalmic									
	Enophthalmic (sunken)									
	Cataract									
	Haemorrhagic									
Gills	Pale									
	Zoned									
	Necrotic									
Lesions	Flank									
	Elsewhere									
Vent	Inflamed	M	M	M	M	W				
	Trailing faeces									
Lice Load	Estimate numbers									
<b>Internal Signs</b>										
Ascites	Clear									
	Bloody									
Oedema	In tissues									
Heart	Pale/anaemic									
	Granulomas									
	Deformed									
Liver	Petechial haem									
	Gross haem									
	Tissue breakdown									
	Enlarged									
	Colour number(s)									
	Granulomas									
Pyloric caeca	Lesions									
	Petechial haem									
	Tubules mauve									
	Lack of fat									
Spleen	Enlarged									
	Granulomas									
Gut	No food present	S		S	S					
	Yellow pseudo-faeces									
	External haem									
	Internal haem									
Body wall	Haemorrhaging									
Swim bladder	Haemorrhaging			W						
	Fluid filled									
Kidney	Swollen									
	Grey									
	Granular									
	Liquefied									
General	Parasites present	M	S	M	W					
	Anaemia									



## Additional comments:

Fish 1: Female, 3.32kg, 71cm. Fish 1 showed signs of fungus on tail and dorsal fins. In addition, vent was also found to be swollen. Red spots/ haemorrhaging observed at the pelvic fins and along the ventral surface. Scaling was also observed on dorsal fin. Internally, no food was found in the gut and parasites (anisakis sp.) were observed in the pyloric caeca and around the gut (see parasitology sample).

Fish 2: Female, 3.5kg, 76cm. Externally, severe erosion of the snout was evident. In addition, haemorrhaging around the pectoral fins was observed. Internally, 3 parasites (white worm-like) were found; one at the vent, one at the pyloric caeca and one at the ovaries (see parasitology sample and photos).

Fish 3: Male, 3.46kg, 76cm. Externally, fungus was observed on the ventral surface, snout/head, pectoral fins, pelvic fins, dorsal fins and adipose fins. Internally, no food in the gut was seen. In addition, haemorrhaging was observed on the swim bladder (see photos).

Fish 4: Female, 3.02kg, 72cm. Fish 4 was found to have a swollen vent (slight) and possessed erosion on the snout as well as fungus. Haemorrhaging was also observed on the whole ventral surface. Internally, the spleen was seen to have a slightly rougher texture to the other spleens seen in the other sampled fish. Anisakis sp. were found in the internal cavity too. Fish 4 possessed no food in the gut.

Fish 5: female, 4.0kg, 76cm. Compared to the rest of the fish sampled, this was a very lively fish. Externally, haemorrhaging was visible along the belly and worse at the vent. Fungus was observed on the snout and chin, as well as the adipose and dorsal fins. No parasites were observed.

Site No: FS1240
Case No: 2022-0167
Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology





# INTERIM FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0544	<b>DATE OF VISIT</b>	19/05/2022
<b>SITE No</b>	FS1240	<b>SITE NAME</b>	Highland
<b>CASE No</b>	20220167	<b>INSPECTOR</b>	[REDACTED]

### Section 1: Summary

The above site was inspected following reports of increased mortality by Findhorn, Nairn and Lossie Fisheries Trust. Due to gross pathology being observed on the salmon, diagnostic samples were collected from 5 fish.

Histopathology examination revealed complex pathology, including myositis, fungal-like dermatitis and complex branchitis associated with the presence of mixed pathogens.

All fish sampled also tested positive by qPCR for salmon gill poxvirus (SGPV).

*Saprolegnia* sp. was identified on all fish sampled and seemed to have a significant effect on the gill function and the integument.

Several *Anisakis* sp. were found in the sampled fish, which are noted to be commonly observed in wild fish. The other observed parasite, *Hepatoxylon trichiuri*, is not frequently found in wild fish in this region and is usually associated with larger predatory fish species like swordfish and tuna.

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 telephone call was received on the 18/05/2022 from the Findhorn, Nairn and Lossie Fisheries Trust, reporting increased mortality in multiple tributaries and within the River Findhorn. The report noted that within 7-10 days, approximately 400 wild salmon were found dead with severe signs of fungus-like infection. The fisheries trust requested an inspection of the fish, in addition to diagnostic sampling. Six fish were caught on the 19/05/2022 and diagnostic samples were collected from 5 of the fish. These fish were kept alive in a keep net in a deeper pool of the river prior to inspectors arriving. One fish had deceased upon the inspector's arrival.

Four out of five fish were identified as females with an average weight of 3.46kg and an average length of 73.75cm. One male was also identified, with a weight of 3.46kg and a length of 76cm. Clinical signs of disease included morbidity, lethargy present in all except for fish 5. All five fish showed fungus-like growths and haemorrhaging on the belly. Erosion of the snout, head and fins was a common observation on the sampled fish. Swollen vents were also seen on multiple sampled fish.

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Internally, there was no food present in the gut of any of the sampled fish. In fish 2 and 4, multiple parasites were observed.

### Samples

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

Fish number	Species	Origin
1	Atlantic Salmon	River Divie
2	Atlantic Salmon	River Divie
3	Atlantic Salmon	River Divie
4	Atlantic Salmon	River Divie
5	Atlantic Salmon	River Divie

### Results

**Bacteriology:** Kidney, gill, spleen and lesion material from 5 fish were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria were isolated from five fish:

- *Yersinia ruckeri*
- *Aeromonas sp. (hydrophila)*
- *Lactococcus sp.*

The level of purity of growth would not suggest these bacteria would be implicated as the source of morbidity. However, *Yersinia ruckeri* is a primary pathogen and the *Aeromonas sp.* matches the biochemical characteristics of *Aeromonas hydrophila*, which is a fish pathogen.

### **Microbiology:**

A fungus matching the microscopic characteristics of *Saprolegnia sp* on plates taken from gill material of fish 1-4 and spleen material of fish 3.

**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)
F1	24.36	26.38	26.53	26.53	POSITIVE
F2	25.1	27.31	27.2	27.23	POSITIVE
F3	24.36	32.31	32.38	32.25	POSITIVE
F4	24.77	28.77	28.65	28.79	POSITIVE
F5	24.71	30.86	30.89	31.15	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:** The samples tested negative for *Neoparamoeba perurans* (AGD) and *Paranucleospora theridion*.

Individual parasites were observed and analysed. A low number of worms, consistent with *Anisakis* sp. were found in the vents of all 5 fish samples. An anasakid worm was identified in F1 and two cestode plerococroid larvae were identified in F2, and were consistent with *Hepatoxylon trichiuri*.

**Histology:** Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, hind gut, liver, spleen and kidney were taken from 5 fish. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

**Gill:** Marked filament necrosis, haemorrhaging and some lamellar hyperplasia and fusion, hyphae also observed (F2) and presence of apoptotic cells (F1-F3). Gram-negative bacteria colonizing the respiratory surface of the lamellae displaying affinity for chloride cells and free gram-negative bacteria among gill filament (F3). F5 displayed some clubbing at the filament tips and some foci of cell necrosis. Cell debris with bacteria associated and free blood among gill filaments noted in all fish. Three lamellar thrombi and slightly sick epithelial layer (F1). One to few *Trichodina* parasite in between two lamellae (F1, F4, F5).

**Skin and Muscle:** Small area displaying an hyphae mat, oedematous dermis and low inflammatory reaction (F1, F3), some the hyphae reached the musculature (F2, F3). F3 exhibited a marked musculature necrosis with no inflammatory reaction, hypodermal haemorrhage and some inflammatory reaction. Musculature shows several foci of myofibrillar degeneration and multiple nuclei not restricted to the periphery of the cells. Some with associated inflammatory cell component (F1, F2). Few Gram-negative bacteria were observed (F3).

**Heart:** within normal range.

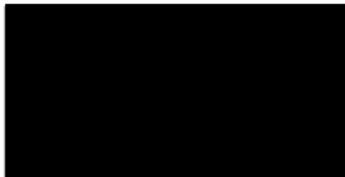
**Gut and pyloric caeca:** Anisakid-like larvae encysted in the pyloric wall (F1), a Trematode within pyloric caeca lumen (F2) and Cestoda larvae.

**Pancreas:** within normal range.

**Liver:** Some diffuse macroviscules (F1, F5) and some cuffing (F1). F3 and F4 a focal area of hepatic necrosis and multifocal sinusoidal congestion.

**Kidney:** Low intensity focal intratubular myxosporidiosis with early spore formation. Host response absent (F1-3). Several renal tubes with dilated lumen.

**Spleen:** some spleen necrosis and cuffing (F3).



Signed:

Date: 20/06/2022

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 Fax - 0131 244 0944 Email - [ms.fishhealth@gov.scot](mailto:ms.fishhealth@gov.scot)  
Website - [www.gov.scot/Topics/marine/science](http://www.gov.scot/Topics/marine/science)

Fish 1:



Figure 1 Overview of Fish 1



Figure 2 Ventral fin and vent from fish 1



*Figure 3 Gills on fish 1*



*Figure 4 Dorsal fish on fish 1*



Fish 2:



*Figure 7 Overview of fish 2*



*Figure 8 Image of head lesions on fish 2*



*Figure 9 Gills of fish 2*



*Figure 10 Belly of fish 2 and depicting haemorrhaging after the ventral fin*



*Figure 11 Haemorrhaging on belly between pelvic and ventral fins*



*Figure 12 Image of internal parasite in fish 2*



*Figure 13 Internal view of fish 2*

Fish 3:



Figure 14 Overview of fish 3



Figure 15 View of head and fungus-like lesions on fish 3



*Figure 16 Image of belly of fish 3, showing fungus lesions and swollen vent*



*Figure 17 Gills of fish 3*



Figure 18 Internal view of fish 3

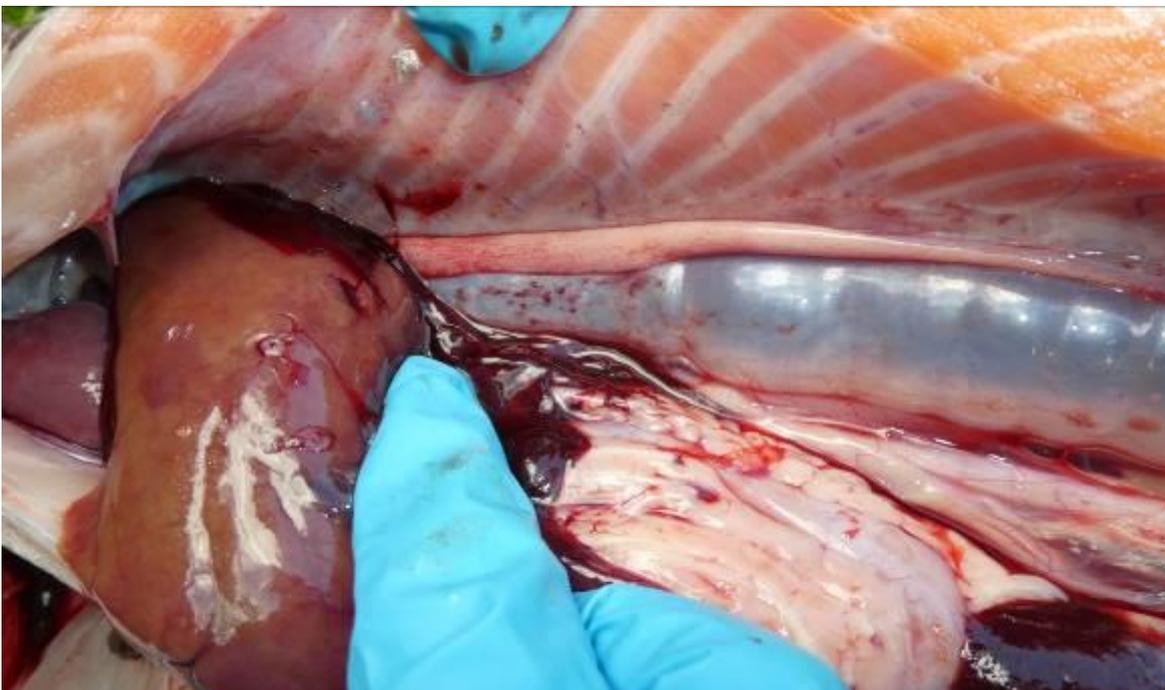


Figure 19 Swim bladder with haemorrhaging visible

Fish 4:



*Figure 20 Overview of fish 4*



*Figure 21 Underside of head and pectoral fins on fish 4 depicting haemorrhaging*



*Figure 22 More haemorrhaging around ventral fin on fish 4*



*Figure 23 Image of gills of fish 4*



Figure 24 Internal view of fish 4

Fish 5:



Figure 25 Overview of fish 5



*Figure 26 Underside of fish 5 with haemorrhaging along it*



*Figure 27 Swollen vent and haemorrhaging before and after the ventral fin*



Figure 28 Gills of fish 5



Figure 29 Internal view of fish 5