

Case No: Date of visit:

Time spent on site: Main Inspector:

Site No: Site Name:
 Business No: Business Name:

Case Types: 1 2 3 4 5 6

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

Observations: Region: OR Water type: S CoGP MA: O-3

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

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

Additional Case Information:

Fish came on from Barcaldine Smolt Unit (FS1328) over 3 inputs during September, October and November 2020.

Mortality event w/b 20/09 -

Sudden increase in mortality in cages 3,4,5,6,7,9 and 10, low ambient and in-cage dissolved oxygen. No signs of physical damage were observed on the fish (internal and external). Feeding rate also reduced during this time.

Mortality the week before was 0.25%. Cages 1,2 and 3 had a hydrolicer treatment and the mortality was attributed to this handling event and accounted for the majority of mortalities that week. IN general, mortalities at the site have been low since input with mortalities being attributed to planned handling events.

Fish have reportedly been in good physical health, with a low lice burden that was treated. AGD treatment shortly after input and recent swabs have returned moderate AGD positive. Treatment options are currently being arranged. Fish were feeding well prior to the mortality event and have had a demonstrated a high conversion rate.

Dissolved oxygen at the site dropped from >10mg/l down to <6mg/l during the week of the mortality event.

Current working diagnosis of the mortality event has been attributed to heart failure due to impaired respiration associated with CGD during a period of hypoxia.

Site emergency harvested the worst affected cages.

First cycle of stocking wildcaught wrasse. 12,187 wrasse were input to the site on 16/09/2021. 5,765 (47.3%) fish were removed at the same time the Salmon were harvested from the worst affected cages following the mortality event on 26/10/21. No other mortality has been recorded since input in September. Site manager reported that the wrasse were having a positive effect on reducing the lice count across the site. Albeit, sea lice counts have been low this cycle.

Weather was very poor on day of inspection. Inspector walked round 2/5 cages before the large swell was compromising safety. The remaining cages were inspected from the boat.

The fish were difficult to see as they were sitting deep in the water and were not surfacing for feed. No moribunds observed in any of the cages and only 1 mortality was noted across the site, although not fresh dead so not sampled.

Fish sampled for VMD appeared healthy.

Case No: **2021-0452** Site No: **FS1024**
 Date of Visit: **26/10/2021** Inspector(s): **[REDACTED]**

Registration/Authorisation Details

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

Site Details (include cleaner fish for all sections)

Total No facilities	10	Facilities stocked	5	No facilities inspected	10
Species	SAL	WRA			
Age group	2020 S0	Wildcaught			
No Fish	100,000	5,953			
Mean Fish Wt	3kg	Mixed			
Next Fallow Date (Site)	July 22		Next Input Date (Site)	Sept 22	
Recent (last 4 wks) disease problems?		Y	Any escapes (since last visit)?		N
If yes, detail:	CGD				

Movement Records

1. Movement records available for inspection? **Y**
 2. Date of last inspection: **20/03/2019**
 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)? **N**
 If yes, is there a system in place for maintenance of transportation records? **[REDACTED]**

Mortality Records

1. Mortality records available for inspection? **Y**
 2. How are mortalities disposed of? **Other (detail)**
 If other detail: **Mortalities are stored in sealed bins and transferred internally to SSF Orkney mainland to be ensiled.**
 3. Mortality records complete and correctly entered? **Y**
 4. Recent mortality (last 4 wks): **Wk42: 5,876 (2.72%); Wk41: 19,220 (6.24%); Wk40: 49,650 (13.87%); Wk39: [REDACTED]**
 5. Evidence of recent increased/atypical mortalities? **Y**
 If yes, facility nos/no mortality per facility/no stock per facility/reason:
Cages 3 and 5 have been the worst affected following a short period of low dissolved oxygen, exacerbated by poor gill health.
 6. Any other peaks in mortality during period checked? **Y**
 If yes, detail: **Wk17: 4,941 (1.24%), Wk15: 6,772 (1.65%) - both attributed to a handling event during net changes.**
 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)?	<input type="checkbox"/>	Y
If yes, detail:	T.M.S	
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)?	T.M.S	
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:	20/03/2019 - 26/10/2021
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Case Number:	2021-0452	Site No:	FS1024	Insp:		
Date of Visit	26/10/2021	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	
	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				0
	Processing own fish (re-cycling risk)	1				
	Processing fish from MS of equivalent status	2				
	Processing fish from zone or compartment of equivalent status	4				
	Processing fish from Category III farm	8				
	Processing fish from Category V farm	10				
Disposal of fish and fish by-products	Site's own waste only processed.	0				
	Common processes with other farms	3				3
	Collection point for waste from other farms	5				
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0
	Feeding unpasteurised feed	5				
Biosecurity	Number of sites	1	2 or 3	≥ 4		
Contacts with other sites	Sites operating from single shorebase	0	1	2		1
	Sites sharing staff and equipment	0	1	2		1
Disinfection of equipment between sites, use of footbaths etc	Yes	0				
	No	1				1
CoGP/Regulator						
Practices in accordance with regulator or industry code of practice	Yes	0				0
	No	3				
Platform access to cages	Yes	0				0
	No	2				
Total Rank					21	MEDIUM

Case No: **2021-0452**

Site No: **FS1024**

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 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)

Top nets, tensioned nets

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: 2021-0452

Site No: FS1024

Date of Visit: 26/10/2021

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?



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	P1								
Fish nos	1	2	3	1-3	4-5							
Pool Group	P1	P1	P1									
Species	SAL	SAL	SAL	SAL	SAL							
Average weight	3kg	3kg	3kg	3kg	3kg							
Sex	N/A	N/A	N/A	N/A	N/A							
Water Type	SW	SW	SW	SW	SW							
Stock Details	Barcaldine Smolt Unit FS1328	Barcaldine Smolt Unit FS1328	Barcaldine Smolt Unit FS1328	Barcaldine Smolt Unit FS1328	Barcaldine Smolt Unit FS1328							
	Stock Origin											
Facility No	3	3	3	3	7							

Case no: 2021-0452

Site No: FS1024

Method of killing: Percussive

Date of visit: 26/10/2021

Inspector(s):

Sheet Relevant: Y

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

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

Additional comments:

Site No: FS1024
Case No: 2021-0452
Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology



FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0125	DATE OF VISIT	26/10/2021
SITE No	FS1024	SITE NAME	Toyness
CASE No	20210452	INSPECTOR	██████████

Section 1: Summary

The site was visited following continued reports of elevated mortality levels. During the inspection, the fish were sitting deep in the water and no moribund fish were observed in any of the pens. Three fish were removed for further examination and subsequent diagnostic sampling.

Histopathology examination revealed mild multifactorial non-specific proliferative branchitis. Pathology was also consistent with amoebic gill disease (AGD) and epitheliocysts were also present. F3 displayed lesions resembling salmon gill poxvirus. Marked vascular disturbance potentially associated with water bourn insult. Mild multifocal hepatic necrosis (F1).

Vibrio sp. was identified on plates taken from kidney material of 2/3 fish. The level and purity would not suggest it would be implicated in morbidity.

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

Section 2: Case Detail

Observations

The site was inspected following continued reports of elevated mortality levels and to carry out a routine inspection. Increased mortalities had been attributed to gill health, AGD, a period of low dissolved oxygen and treatment losses.

Mortality levels have reduced significantly following a short period of low dissolved oxygen at the site and no moribund fish were observed during the inspection. Three fish were removed from pen 3 for diagnostic sampling.

Externally, no clinical signs of disease were noted on any of the fish, but the gills of F2 and F3 were moderately to strongly pale in colour.

Internally, F3 had a pale/anaemic heart and all three fish had yellow pseudo-faeces in their guts.

Samples

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

Fish number	Pool number	Facility number	Species	Stage	Origin
F1-3	P1	3	Atlantic salmon	2020 S0 3kg	Barcaldine Smolt Unit (FS1328)

Results

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

The following bacteria were isolated:

- *Vibrio* sp.
 - Fish 2-3 (Kidney)

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

- Infectious haematopoietic necrosis virus (IHNV)
- Infectious pancreatic necrosis virus (IPNV)
- Infectious salmon anaemia virus (ISAV)
- Salmonid alphavirus (SAV)
- Viral haemorrhagic septicemia virus (VHSV)

The samples tested negative for all the pathogens listed above.

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from F1-3. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Minimal to mild multifocal hyperplasia and lamellar fusion, some lacunae (some filled with cell debris) observed on the hyperplastic plaques (F1 & F3), prominent goblet cells and chloride cells displacement and lamellar adhesions.

F3 displayed few lamellae with several apoptotic cells. Few amoeboid cells resembling *Neoparamoeba perurans* (F3) and basophilic epithelial inclusions (likely epitheliocystis) (F1).

F1 plankton-like structure walled off between two lamellae. Several aneurysmal dilations and thrombi observed in the lamellar vessels of all fish and F2 was more severe in two of gill filament tips.

All fish displayed free blood among gill filaments.

Skin & Muscle: Within normal range.

Heart: Small nest of inflammatory cell infiltration in the atrium chamber (F1) One thrombus in the ventricle (F1).

Gut and pyloric caeca: Within normal range.

Pancreas: Within normal range.

R09

Liver: Multiple small foci of hepatic cell necrosis (F1).

Kidney: Within normal range.

Spleen: Within normal range.



Signed:

Date: 17/11/2021

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/>

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0125	DATE OF VISIT	26/10/2021
SITE No	FS1024	SITE NAME	Toyness
CASE No	20210452	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. Samples were taken for diagnostic purposes. A separate report will be issued detailing the results of these tests.

Records

The surveillance frequency category of the site was assessed as medium. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted every second year. The category of the site will be reassessed on a routine basis and updated as required.

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

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

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 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: 01/10/2021

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/>

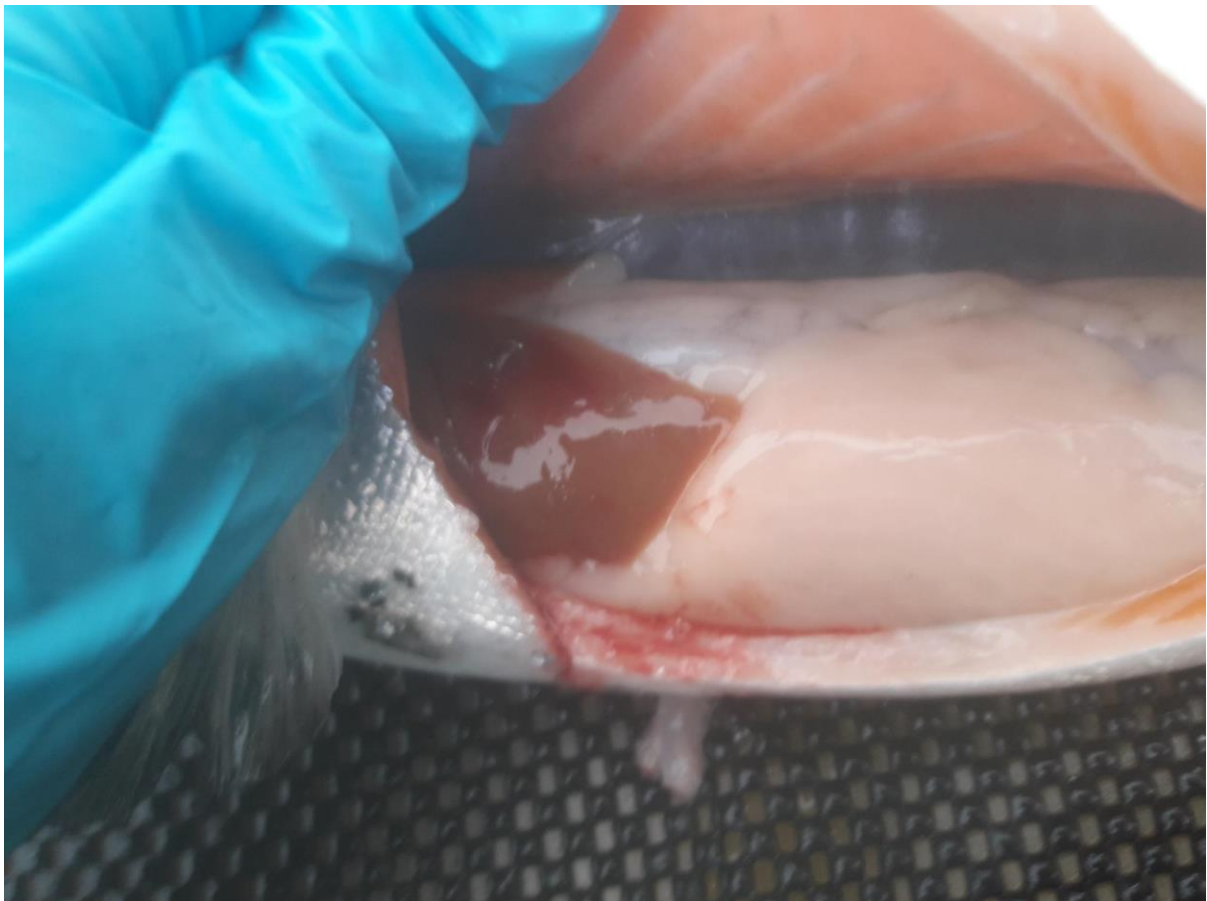


F1





F2



F3 – internal only

