

Case No:	<input type="text" value="2023-0237"/>	Date of visit:	<input type="text" value="01/08/2023"/>			
Time spent on site:	<input type="text" value="3.5 hours"/>	Main Inspector:	<input type="text" value=""/>			
Site No:	<input type="text" value="FS0892"/>	Site Name:	<input type="text" value="Clachbreac"/>			
Business No:	<input type="text" value="FB0061"/>	Business Name:	<input type="text" value="Landcatch Natural Selection Ltd"/>			
Case Types:	1 <input type="text" value="DIA"/>	2 <input type="text" value="REP"/>	3 <input type="text" value=""/>	4 <input type="text" value=""/>	5 <input type="text" value=""/>	6 <input type="text" value=""/>
Water Temp (°C):	<input type="text" value="15.5"/>	Thermometer No:	<input type="text" value="Site"/>	FHI 045 completed	<input type="text" value="N/A"/>	
Observations:	Region:	ST	Water type:	F	CoGP MA:	
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="Y"/>	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="text" value="Y"/>					
UNI/REG only - if unable to carry out intended visit detail reason below:						
<input type="text" value=""/>						

**Additional Case Information:**

FHI was notified in wk 29 that site was experiencing increased mortalities in recently vaccinated stock. 8 tanks were vaccinated and graded into outdoor tanks on 10th July, with mortalities first observed on the evening of the 14th July. Fish were presenting with bloodshot eyes and reddened vents, both observed by husbandry staff and internal & external vets.

Stock origin: Stofinfiskur (organic)

Indoor tanks (3/12) are stocked with fish at 30g, 15883, unvaccinated

Outdoor tanks (8/9) are stocked with fish at 40g, 176538, vaccinated (planned move out of facility in Wk35)

Fish moved from Ormsary at 10g to Clachbreac in Wk 20 2023.

Mortality since input to site in Wk 20, up until Wk28 very low.

Site uses flow through system. Water quality monitoring indicated that all parameters were within acceptable limits (DO, Temp).

Vaccine used: Microjet 6 and PD1 in combination

Vaccination audit indicated the depth of needle penetration was satisfactory, however blood was observed at entry point of needle.

From the vaccination record, calibration comments described depth and site of vaccination and indicated no issues.

Mortalities have been observed to have severely eroded fins and fungus.

Treatment records indicate that formalin was last used 25/7/2023 to flush fish for fungus signs following vaccination (post vaccination plan). Formalin administered in all stocked vaccinated tanks.

Vaccinated fish are due to go to sea in 4 weeks time. Internal and external health checks will be conducted prior to output. Fish vet checks only occur at site when necessary/issues arise with health of fish.

Fish health reports seen following histology and bacteriology samples taken on 17/07/2023. No positive samples found and Saprolegnia suggested as primary cause for fish sampled in tanks B1 and B7.

Two moribund fish with severe loss of equilibrium were observed in tanks B4 and B7 respectively and removed for diagnostic sampling.

No other moribund fish observed during site inspection.

Site thermometer used for biosecurity reasons.

Case No: **2023-0237** Site No: **FS0892**  
 Date of Visit: **01/08/2023** 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>24</b>	Facilities stocked	<b>11</b>	No facilities inspected	
Species	<b>SAL</b>				
Age group	<b>2023</b>				
No Fish	<b>192,421</b>				
Mean Fish Wt	<b>37g</b>				
Next Fallow Date (Site)	<b>End February 2024</b>	Next Input Date (Site)	<b>May 2024</b>		
Recent (last 4 wks) disease problems?		<b>Y</b>	Any escapes (since last visit)?		
If yes, detail: <b>Post vaccination damage, Saprolegnia sp.</b>					

**Movement Records**

1. Movement records available for inspection?  
 2. Date of last inspection: **27/03/2023**  
 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? **Other (detail)**  
 If other detail: **Fish are bagged and frozen and then incinerated at Ormsary Site (weekly)**  
 3. Mortality records complete and correctly entered?  
 4. Recent mortality (last 4 wks): **2023: Wk30, 2495, 1.28%; W29, 28771, 12.94%; Wk28, 10117, 4.44%; 0.06%;**  
 5. Evidence of recent increased/atypical mortalities?  
 If yes, facility nos/no mortality per facility/no stock per facility/reason:  
**Highest increased mortalities observed in tank 1, 6, 7. Consistent increased mortalities also affecting all other tanks outside tanks. Tank B1, B6 and B7 have lost 25.5% (8107), 21.8% (6023) and 48.4%(12693) of stock respectively t (01/08/2023).**  
 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:

Formalin,  
T.M.S

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)?

Formalin, T.M.S

If other, detail:

6. Are medicines stored appropriately?

**Biosecurity Records**

1. Biosecurity records available for inspection?

2. Has the manner and frequency of mortality removal, recording and safe disposal been considered?

3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any *increased (unexplained)* mortality at the site been included?4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and *how* and *when* that will be notified to Scottish Ministers?

5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)?

6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)?

7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site?

8. Have the biosecurity procedures been adequately implemented on site?

If no, detail:

**Results of Surveillance**

1. Has any animal health surveillance been carried out by, or on behalf of, the business?

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:

15/05/2023-01/08/2023

24
N
Y
Y
N/A
N/A
Y
Y
Y
Wk27, 148,
Y
of fish in o date
N
N/A
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	F1	F2										
Fish nos	1	2										
Pool Group												
Species	SAL	SAL										
Average weight	37g	37g										
Sex	N/A	N/A										
Water Type	FW	FW										
Stock Details	Stock Origin	Ormsary Hatchery (FS0681)	Ormsary Hatchery (FS0681)									
	Facility No	B4	B7									





Case no: 2023-0237

Site No: FS0892

Method of killing: Percussive

Date of visit: 01/08/2023

Inspector(s):

Sheet Relevant: Y

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

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

Case no: 2023-0237

Date of visit: 01/08/2023

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

<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>																					
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	<b>Granular</b>																					
	<b>Liquefied</b>																					
<b>General</b>	<b>Parasites present</b>																					
	<b>Anaemia</b>																					

Additional comments:

Case No: 2023-0237

Date of visit: 01/08/2023

Site No: FS0892

Inspector:

Results Summary	Freq.	Date of Notification						
		Database	Insp	Phone	Insp	Writing	Insp	2 <sup>nd</sup> Insp
MG IPN	2/2	04/08/2023		04/08/2023		04/10/2023		
MG VHS	0/2	04/08/2023		04/08/2023		04/10/2023		
MS IHN	0/2	04/08/2023		04/08/2023		04/10/2023		
MG SAV	0/2	04/08/2023		04/08/2023		04/10/2023		
LPAT	2/2	10/08/2023		10/08/2023		04/10/2023		
SPAT	1/2	10/08/2023		10/08/2023		04/10/2023		
HPAT	1/2	10/08/2023		10/08/2023		04/10/2023		
SAPR	2/2	14/08/2023		14/08/2023		04/10/2023		
AERO	2/2	22/08/2023		22/08/2023		04/10/2023		
NSIG	1/2	22/08/2023		22/08/2023		04/10/2023		
GSAL	0/2	14/08/2023		14/08/2023		04/10/2023		

Report Summary	Date	Insp	2 <sup>nd</sup> Insp
Case Type			
DIA, REP	04/10/2023		



# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

**BUSINESS NO** FB0061                      **DATE OF VISIT** 01/08/2023  
**SITE NO** FS0892                         **SITE NAME** Clachbreac  
**CASE NO** 20230237                      **INSPECTOR** [REDACTED]

### Section 1: Summary

The above site was inspected following a report of increased mortality, observed in all vaccinated tanks on site. During the physical inspection, two Atlantic salmon parr were removed for diagnostic sampling.

Histopathological examination revealed mild hepatitis and myocarditis which was very mild and multifocal.

The sampled fish tested positive using qPCR for infectious pancreatic necrosis virus (IPNV).

DNA sequence analysis was performed on a suspected colony of *Saprolegnia parasitica*. Results showed the isolate to be *Saprolegnia parasitica*.

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

Following a report of increased mortality observed in tanks that had recently been vaccinated, an inspection was conducted. During the site inspection, it was noted that the highest increased mortalities were observed in tanks 1, 6, 7, with increased mortalities affecting all other tanks of fish in vaccinated stock. Only two fish were found to be moribund and were removed from B4 and B7 respectively.

Fungus-like growth were observed on both fish removed for sampling; fish 1 was observed to have it on the dorsal fin and the mouth of fish 2. The gills of fish 2 were found to be significantly pale. The spleen of fish 1 was seen to be enlarged and the pyloric caeca of fish 2 had a lack of fat. In addition, the kidney of fish 2 was found to be slightly grey in colour. Lastly, yellow pseudo-faeces was present in both fish.

#### Samples

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

Fish number	Facility number	Species	Stage	Origin
1	B4	Atlantic Salmon	37g 2023	Ormsary Hatchery (FS0681)
2	B7	Atlantic Salmon	37g 2023	Ormsary Hatchery (FS0681)

## Results

**Microbiology:** Kidney, spleen and lesion material from two fish were inoculated onto appropriate media for the isolation of microbes.

The following were isolated from F1 and F2:

- *Aeromonas* sp.: F1 & F2 (Kidney), F1 (Lesion)  
*Saprolegnia* sp.: F1 (Lesion)

**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 pancreatic necrosis virus (IPNV)

Fish Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
F1	15.11	35.63	37.19	36.51	POSITIVE
F2	14.37	33.66	33.63	35.00	POSITIVE

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

**Parasitology:** Fins were collected to determine the presence of *Gyrodactylus salaris* using light microscopy.

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

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

Histopathological examination revealed the following:

Gill: Within normal range.

Skin & Muscle: Within normal range.

Heart: Very mild, multifocal myositis (F2), epicarditis, moderate (F2).

Gut and pyloric caeca: Minor peritonitis (F2).

Pancreas: Within normal range.

Liver: Capsulitis and cuffing (F1), minor cuffing in F2.

Kidney: Minor the interstitial cell (haemopoietic) necrosis (F2).

Spleen: Cuffing, multifocal (F2).

Signed:



Fish Health Inspector

Date: 04/10/2023

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Scottish Government website at Fish Health Inspectorate Service Charter - gov.scot ([www.gov.scot](http://www.gov.scot))  
R09 UKAS accredited testing laboratory No. 1964

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)

## Diagnostic Samples Photos: 2023-0237



Figure 1 Overview of a) fish 1 and b) fish 2. Scalpel for scale



Figure 2 Underside of fish 1



Figure 3 Underside of fish 2





*Figure 4 Gill of fish 1*



*Figure 6 Internal view of fish 1*



*Figure 5 Internal view of fish 2 (post sampling)*