

Case No:	<input type="text" value="2021-0234"/>	Date of visit:	<input type="text" value="04/08/2021"/>			
Time spent on site:	<input type="text" value="4.5h"/>	Main Inspector:	<input type="text" value=""/>			
Site No:	<input type="text" value="FS0212"/>	Site Name:	<input type="text" value="Invasion Bay"/>			
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="CNI"/>	3 <input type="text" value="VMD"/>	4 <input type="text" value="SLI"/>	5 <input type="text" value="DIA"/>	6 <input type="text" value=""/>
Water Temp (°C):	<input type="text" value="13.9"/>	Thermometer No:	<input type="text" value="T173"/>	FHI 045 completed	<input type="text" value=""/>	
Observations:	Region:	HI	Water type:	S	CoGP MA:	M-34
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:

Some information was provided on 06/07/2021. Details provided:

Last cycle: VHP, Treatment Records, Site Details, Mortalities

This cycle: VHP, Site Details, Cleanerfish Movements, Lice and Mortality Data

Cleanerfish:

Lumpfish peak mortality- 2020 Wk28, 1613 ,pseudomonas; 2021 Wk18 1217, wounds and fin damage; 2021 Wk24 1004 emancipation; 2021 Wk25 1137, pseudomonas

AMX treatment for caligus 20/7/2021 to 23/7/2021.

Remote inspection conducted by [REDACTED] on 27/07/2021, observed by [REDACTED]. Site inspection conducted by [REDACTED] and observed by [REDACTED] (04/08/2021). VMD sampled by [REDACTED], observed by [REDACTED].

Three fish diagnostic sampling (04/08/2021): fish 1 taken by [REDACTED], observed by [REDACTED]. Fish 2 and 3 taken by [REDACTED] and observed by [REDACTED]. Two fish were moribund and a third that was removed was also included in the sample.

Case No: 2021-0234

Site No: FS0212

Date of Visit: 04/08/2021

Inspector(s):

Registration/Authorisation Details

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

Y

N

Site Details (include cleaner fish for all sections)

Total No facilities 18 Facilities stocked 18 No facilities inspected

Species	SAL	LUM	WRS				
Age group	2020 Q4	2020	wild				
No Fish	564,274	104,058	30,988				
Mean Fish Wt	1.743kg	100g	mix				

Next Fallow Date (Site) September 2022 Next Input Date (Site) December 2022

Recent (last 4 wks) disease problems? N Any escapes (since last visit)?

If yes, detail:

Movement Records

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

14/11/2019

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?

Incinerated - on site

If other detail:

3. Mortality records complete and correctly entered?

4. Recent mortality (last 4 wks):

2021 Wk27, 372, 0.07%; Wk28, 340, 0.06%; Wk29, 455, 0.08%; W

5. Evidence of recent increased/atypical mortalities?

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

6. Any other peaks in mortality during period checked?

If yes, detail: see additional comments- cleanerfish only

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:

AMX, 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)?

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:

14/11/2019-27/07/2021



18
N

Y
Y
N/A
N/A
Y

N

Y
Y
k30, 289,
N

Y
N/A
N/A

Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
Y
N/A

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	P2								
Species	SAL	SAL	SAL	SAL	SAL	SAL						
Average weight	1.7000	1.7000	1.7000	1.7000	1.7000	1.7000						
Sex	N/A	N/A	N/A	N/A	N/A	N/A						
Water Type	SW	SW	SW	SW	SW	SW						
Stock Details		Loch Garry (FS1104)	Loch Garry (FS1104)	Loch Garry (FS1104)	Loch Garry (FS1104)	Loch Garry (FS1104)	Loch Garry (FS1104)					
	Stock Origin											
Facility No	1	3	8		4	4						

Case no: 2021-0234

Site No: FS0212

Method of killing: Anaesthetic

Date of visit: 04/08/2021

Inspector(s):

Sheet Relevant: Y

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

Fish Number		F1	F2	F3						
Time sampled after death (if > 45 minutes)		12:00	12:40	13:15						
External Signs										
Behaviour	Moribund	S		S						
	Lethargic	S		S						
	Hanging vertical									
	Spiralling									
	Flashing									
	Loss of equilibrium									
Body	Dark	S		S						
	Distended abdomen									
	Anorexic									
	Scale Oedema									
Opercula	Shortened		W	W						
	Flared									
Haemorrhaging	Throat									
	Ventrum									
	Base of fins									
	Elsewhere									
Eyes	Exophthalmic									
	Enophthalmic (sunken)									
	Cataract	S								
	Haemorrhagic									
Gills	Pale	W								
	Zoned									
	Necrotic									
Lesions	Flank	M								
	Elsewhere									
Vent	Inflamed									
	Trailing faeces									
Lice Load	Estimate numbers		0	0	0					
Internal Signs										
Ascites	Clear									
	Bloody									
Oedema	In tissues									
Heart	Pale/anaemic									
	Granulomas									
	Deformed									
Liver	Petechial haem	S								
	Gross haem									
	Tissue breakdown									
	Enlarged									
	Colour number(s)		4	3	1					
	Granulomas									
	Lesions									
Pyloric caeca	Petechial haem									
	Tubules mauve									
	Lack of fat									
Spleen	Enlarged	W								
	Granulomas									
Gut	No food present									
	Yellow pseudo-faeces	S		S						
	External haem									
	Internal haem									
Body wall	Haemorrhaging									
Swim bladder	Haemorrhaging									
	Fluid filled									
Kidney	Swollen									
	Grey	W		S						
	Granular	W		S						
	Liquefied									
General	Parasites present									
	Anaemia									

Additional comments:

F1 adhesions throughout the internal cavity, the spleen was encased in a membrane and was slightly enlarged, one eye was missing and a cataract was present in the other, the eye was sampled for histo. F2 was from healthy stock as additional sample training, some considerable scale loss on one flank but this was due to handling as the fish were soft in addition minor pin prick haemorrhaging was present on the ventral surface. Internally the fish appeared healthy. Internally adhesions were evident, some deposits on the fatty tissue. F3 also possessed adhesions in the internal cavity. Minor lesions on one flank. with scale loss evident. Kidney slightly grey and granular, there was no other indication of BKD, therefore no samples were taken for this.

Case Number:	2021-0234	Site No:	FS0212	Insp:		
Date of Visit	04/08/2021	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	10
	Frequency of movements on from equivalent zone or compartment including third country	0	9	18	26	0
	Number of suppliers	0	5	10	14	10
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				0
	Farm is on-line or in a coastal zone with category I farms upstream or within 1 tidal excursion	1	2	4		1
	Farm is on-line or in a coastal zone with category III farms upstream or within 1 tidal excursion	1	3	6		
	Farm is on-line or in a coastal zone with category V farms upstream or within 1 tidal excursion	1	4	8		
Management practices		None	Secure	Unsecure		
Water contacts with processors	Any processing plant discharging into adjacent waters	0	1	2		0
On farm processing within the rules of the directive	No on farm processing	0				
	Processing own fish (re-cycling risk)	1				1
	Processing fish from MS of equivalent status	2				
	Processing fish from zone or compartment of equivalent status	4				
	Processing fish from Category III farm	8				
	Processing fish from Category V farm	10				
Disposal of fish and fish by-products	Site's own waste only processed.	0				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				
Biosecurity	Number of sites	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				
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					35	
Rank					HIGH	

Case No: 2021-0234

Site No: FS0212

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, and 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 M
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 Anne
7. Are sea lice (*L. salmonis*) record levels below the suggested criteria for treatment in the CoGP during the period
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/ 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
10. Have therapeutic treatments been administered or other actions taken when *L. salmonis* levels have exceeded 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
15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with rec
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)

Tension nets top 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
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
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: 2021-0234

Site No: FS0212

Date of Visit: 04/08/2021

Inspector: [REDACTED]

Point of Compliance

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

If N, no further questions require completion.

Points of Compliance for Both Farm Management Agreements and Statements

- 2. Has a current farm management agreement or statement (FMAg/S) been prepared?
- 3. Is the current FMAg/S available for inspection?
- 4. Does the FMAg/S identify the relevant farm management area?
- 5. Does the FMAg/S identify the fish farm site(s) to which it applies?
- 6. Does the FMAg/S identify the date of commencement of the agreement or statement?
- 7. Does the FMAg/S identify the date of review?

Arrangements for Fish Health Management

- 8. Does the FMAg/S identify the minimum health standards for the stocks to be introduced to the area or farm?
- 9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm?
- 10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm?
- 11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm?
- 12. Does the FMAg/S identify the arrangements for the storage and disposal of any dead fish from any fish farm in the area or the individual farm?

Arrangements for The Management of Sea Lice

- 13. Does the FMAg/S identify arrangements for the sharing of data on sea lice numbers and treatments?
- 14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement?
- 15. Does the FMAg/S identify any requirements for the sensitivity testing of available treatments for sea lice on farms in the area or individual farms?
- 16. Does the FMAg/S identify the circumstances under which biological controls and cleaner fish are to be used on farms in the area or individual farms?
- 17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area?

Live Fish Movements

- 18. Does the FMAg/S identify the circumstances when live fish may be introduced or removed from the area or farm?
- 19. Does the FMAg/S identify the arrangements for the movement of live fish on and off sites in the area or individual farms?

Harvesting

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

Fallowing

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

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

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

Point of Compliance for Farm Management Agreements Only

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

Management and operation

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

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



FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0119	DATE OF VISIT	04/08/2021
SITE No	FS0212	SITE NAME	Invasion Bay
CASE No	20210234	INSPECTOR	[REDACTED]

Section 1: Summary

During a routine inspection two lethargic and moribund Atlantic salmon were observed, these were removed for further examination and subsequent diagnostic sampling. A third salmon that had been removed for residue testing was also sampled to allow a direct comparison to be made and for training purposes.

Histopathology examination revealed mild gill pathology and dermatitis. Mild peritonitis was observed in one fish and likely associated with vaccination.

Pseudomonas sp. was isolated from the lesions of all three fish and the kidney of one however, purity and level of growth did not suggest that the bacteria were implicated in fish morbidity.

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

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 visited for a routine inspection. No recent disease problems had been reported. Mortality across the site has been low in weeks leading up to the inspection. On inspection of the stocks two moribund and lethargic fish were observed and removed for further examination and subsequent diagnostic sampling. One additional fish was removed for residue testing.

Externally F1 and F2 were moribund and lethargic with darkened bodies. The opercula of F2 and F3 were slightly shortened. F1 had one eye missing and a cataract, in addition the gills were pale and lesions were evident on the flank. F2 had some minor pin prick lesions on the ventral surface. All three fish had scale loss on the flanks but this was due to handling.

Internally, F1 and F3 displayed adhesions throughout the internal cavity and F2 had some dark deposits on the fatty tissue. F1 had some petechial haemorrhaging on the liver and had a slightly

R09

enlarged spleen. Yellow pseudo faeces was present in the gut of F1 and F3 and the kidneys were grey and granular. The spleen of F1 was encased in a membrane.

Samples

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

Fish number	Pool number	Facility number	Species	Stage	Origin
F1	P1	1	Atlantic salmon	2020 Q4/ 1.7kg	Loch Garry (FS1104)
F2	P1	3	Atlantic salmon	2020 Q4/ 1.7kg	Loch Garry (FS1104)
F3	P1	8	Atlantic salmon	2020 Q4/ 1.7kg	Loch Garry (FS1104)

Results

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

The following bacterium was isolated:

- *Pseudomonas* sp.: F1-3 (Lesions), F1 (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).

The samples tested negative for IHNV, IPNV, ISAV, SAV, VHSV.

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

Histopathological examination revealed the following:

Gill: Mild interlamellar epithelial hyperplasia and lamellar fusion, several lamellae displaying vascular thrombosis (F1). F3 displayed debris among gill filaments and a structure resembling a copepod.

Skin & Muscle: Oedematous epidermal layer, oedema of the stratum spongiosum, no pocket scales present and presence of minimal inflammatory cell infiltration (F1). F2 displayed a focal area with a cluster of osteoclast-like cells and some inflammatory cell infiltration on the stratum spongiosum.

Heart: within normal range.

Gut and pyloric caeca: Abdominal adipose tissue displayed some inflammatory cell infiltration, some fibrous adhesions and granulomatous inflammation (likely associated with vaccine administration) (F1). F2 exhibited some sloughing likely associated with post-mortem artefacts.

Pancreas: Within normal range. F3 displayed evidences of pancreatic autolysis.

R09

Liver: Two granuloma within the hepatic parenchyma (F1), some diffuse vacuolation (macrovisicles) (F1).

Kidney: Few scattered swollen erythrocyte within hematopoietic tissue.

Spleen: Foci of reduced white pulp (F1).

Eye: Within normal range (F1). F2 and F3 not sampled.

Signed:



Fish Health Inspector

Date: 26/08/2021

The Fish Health Inspectorate Service Charter detailing standards of service is available on the Marine Scotland website at <https://www.gov.scot/publications/fish-health-inspectorate-service-charter/>

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0119	DATE OF VISIT	04/08/2021
SITE No	FS0212	SITE NAME	Invasion Bay
CASE No	20210234	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.

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 high. 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.

No mortality levels exceeding the reporting criteria have been recorded since the last inspection.

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

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

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

Medicine records were inspected and found to be adequately maintained.

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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: 10/08/2021

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/>