

Case No:	2024-0171	Date of visit:	29/05/2024			
Time spent on site:	5h	Main Inspector:				
Site No:	FS0908	Site Name:	Quanterness			
Business No:	FB0095	Business Name:	Cooke Aquaculture Scotland Ltd			
Case Types:	1 STI	2 DIA	3	4	5	6
Water Temp (°C):	11.2	Thermometer No:	T173	FHI 045 completed		
Observations:	Region:	OR	Water type:	S	CoGP MA:	O-2
Dead/weak/abnormally behaving fish present?	y	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	Y	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	Y	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	Y					
UNI/REG only - if unable to carry out intended visit detail reason below:						

Additional Case Information:

Sal peaks in mortality 2023: wk 19 1974 (1.73%)predator/handling , wk 20 1242 (1.11%) predator/other, wk 29 1132 (1.08%) predator/other, wk 30 1397 (1.35%) mainly predator, wk 31 2054 (2.01%) mainly predator.

The site was inspected as it had been served an IDN (IDN2024008) on the 24/5/2024 due to being located within one tidal excursion of Meil Bay (FS0597) that was served a CDN (CDN2024002) following confirmation of a clinical outbreak of BKD. The inspection was to determine if there was clinical signs of BKD as this would lead to the revocation of the IDN.

On inspection of the stock a number of lethargic fish were observed therefore diagnostic samples were taken with additional samples to screen for BKD.

On inspection of the movement records it was detailed that an input of 216,276 smolts from Clachbreac (FS0892) had occurred on the 28/5/2024 without permission having been applied for, this will be dealt with outwith the case.

The fish were transferred due to fungus levels at source site and lack of other sites with space.

Morts taken to Dounby yard for storage, moved to Pelagia or biogas.

One fw treatment administered when stocks were moved to accommodate new input. Treatment was for gills and lice.

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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	8	Facilities stocked	8	No facilities inspected	8
Species	SAL				
Age group	2024 S1				
No Fish	571,570				
Mean Fish Wt	250g				
Next Fallow Date (Site)	Dec 2025	Next Input Date (Site)	April 2026		
Recent (last 4 wks) disease problems?		Y	Any escapes (since last visit)?		N
If yes, detail:	Fungus on input				

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?

Y
06/02/2023
Y
Y
Y
N/A

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)
3. Mortality records complete and correctly entered?
4. Recent mortality (last 4 wks): wk 21 759 (0.21%), wk 20 1271 (0.36%), wk 19 737 (0.21%), wk 18 1691 (0.47%) mainly predator/other.
5. Evidence of recent increased/atypical mortalities?
6. Any other peaks in mortality during period checked?
7. Have increased (unexplained) mortalities been reported to vet or FHI?
8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet.

If other detail: Pelagia Shetland or biogas

If yes, detail: see additional information

If yes, detail action:

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 <i>increased (unexplained)</i> 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 <i>how</i> and <i>when</i> 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?	Y
2. If yes, are results available for inspection?	Y
3. Any significant results?	N
If yes, detail (if not detailed under recent disease problems).	

Records checked between:	6/2/2023 to 29/5/2024
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Case no: 2024-0171Site No: FS0908Date of visit/ Sampling: 29/05/202429/05/2024

Priority samples: VI BA x PA MG HI

Time sampling starts/ends: 12:30:0014:00:00Inspector: VMD No.

Environmental conditions: 1 Indoors2345

Summary samples HIST Y BA Y MG Y 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	P1	P1	P1	P1	P1							
Species	SAL	SAL	SAL	SAL	SAL							
Average weight	100g	100g	100g	100g	100g							
Sex	N/A	N/A	N/A	N/A	N/A							
Water Type	SW	SW	SW	SW	SW							
Stock Details		Clachbreac	Clachbreac	Clachbreac	Clachbreac							
Stock Origin												
Facility No	8	8	7	7	7							

05/2024 Additional Sample Information:

Dry tube of kidney taken. Freshwater plates taken due to fish being in the sea for less than 24 hours. BKD sample taken due to observation of slightly grey granular kidney and site was being inspected to conduct STI.

5

Total Tests assigned

5

[illegible]

Method of killing: Percussive

Sheet Relevant: ☒

Fish Number		1	2	3	4	5				
Time sampled after death (if > 45 minutes)										
External Signs										
Behaviour	Moribund	S	S	S	S	S				
	Lethargic									
	Hanging vertical									
	Spiralling									
	Flashing									
	Loss of equilibrium									
Body	Dark	M	M	M	M	M				
	Distended abdomen									
	Anorexic									
	Scale Oedema									
Opercula	Shortened									
	Flared									
Haemorrhaging	Throat									
	Ventrum									
	Base of fins									
	Elsewhere									
Eyes	Exophthalmic									
	Enophthalmic (sunken)									
	Cataract									
	Haemorrhagic									
Gills	Pale									
	Zoned									
	Necrotic									
Lesions	Flank									
	Elsewhere									
Vent	Inflamed									
	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)	4	4	4	4	4				
	Granulomas									
	Lesions									
Pyloric caeca	Petechial haem									
	Tubules mauve		S			S				
	Lack of fat		S			S				
Spleen	Enlarged									
	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	W	W	W	W				
	Granular	W	W	W						

Date of visit: 29/05/2024

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

Fish Number									
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External Signs									
Behaviour	Moribund								
	Lethargic								
	Hanging vertical								
	Spiralling								
	Flashing								
	Loss of equilibrium								
Body	Dark								
	Distended abdomen								
	Anorexic								
	Scale Oedema								
Opercula	Shortened								
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Gills	Pale								
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Vent	Inflamed								
	Trailing faeces								
Lice Load	Estimate numbers								
Internal Signs									
Ascites	Clear								
	Bloody								
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Heart	Pale/anaemic								
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Liver	Petechial haem								
	Gross haem								
	Tissue breakdown								
	Enlarged								
	Colour number(s)								
	Granulomas								
	Lesions								
Pyloric caeca	Petechial haem								
	Tubules mauve								
	Lack of fat								
Spleen	Enlarged								
	Granulomas								
Gut	No food present								
	Yellow pseudo-faeces								
	External haem								
	Internal haem								
Body wall	Haemorrhaging								
Swim bladder	Haemorrhaging								
	Fluid filled								
Kidney	Swollen								
	Grey								
	Granular								
	Liquefied								
General	Parasites present								
	Anaemia								

Additional comments:

split/eroded fins noted.

Date of visit: 29/05/2024

Inspector: [REDACTED]

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FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0095	DATE OF VISIT	29/05/2024
SITE No	FS0908	SITE NAME	Quanterness
CASE No	20240171	INSPECTOR	

Section 1: Summary

On inspection of the site approximately 100 moribund fish were observed in three recently stocked pens, five were removed for further examination and subsequent diagnostic sampling.

Histopathological examination revealed mild peritonitis potentially associated with vaccine administration.

Infectious pancreatic necrosis (IPN) was detected in F1-F5 by qPCR however, this would likely be due to recent vaccination prior to transfer and would support the histopathological observations.

Vibrio sp. was identified but would not be implicated in morbidity.

The site had been served an initial designation notice (IDN) due to being within one tidal excursion of a site where the presence of bacterial kidney disease (BKD) had been confirmed. Samples were taken and screened for the presence of *Renibacterium salmoninarum* by qPCR, the result of these tests were negative therefore the IDN was revoked.

If clinical signs of BKD are observed on the site, the Inspectorate must be informed immediately.

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 to determine if a clinical outbreak of bacterial kidney disease (BKD) was occurring as it is located within one tidal excursion of a site where the presence of BKD had been confirmed.

On inspection of the site three pens had approximately 100 moribund fish in each pen, all three pens had recently been stocked from freshwater, five fish were removed for diagnostic sampling.

Externally all fish were dark in appearance. Internally the pyloric caeca of F2 and F5 were lacking fat with mauve tubules and with yellow pseudo faeces also present. All five fish had slightly grey kidneys that were also granular in texture.

Samples

Samples were collected from F1-F5 fish according to the table below:

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Fish number	Facility number	Species	Stage	Origin
F1-F2	8	Atlantic salmon	100g; 2024 S1	Clachbreac
F3-F5	7	Atlantic salmon	100g; 2024 S1	Clachbreac

Results

Bacteriology: Kidney, gill and spleen material from F1-F5 was inoculated onto appropriate media for the isolation of bacteria.

The following bacterium was isolated:

- *Vibrio* sp.: F1-F5 (kidney)

Tissue samples from F1-F5 were tested for segments of nucleic acid indicative of the presence of *Renibacterium salmoninarum* using real-time PCR (qPCR).

The result of these tests were negative.

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	14.81	35.25	35.22	34.90	POSITIVE
F2	14.01	34.37	34.54	34.14	POSITIVE
F3	14.33	37.65	37.75	37.79	POSITIVE
F4	14.28	34.29	33.89	33.68	POSITIVE
F5	14.79	36.49	36.73	35.17	POSITIVE

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), salmonid alphavirus (SAV) and viral haemorrhagic septicaemia virus (VHSV) and piscine myocarditis virus (CMS).

Histology: Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from F1 to F5. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Within the normal range.

Skin & Muscle: Within the normal range.

Heart: Within the normal range.

Gut and pyloric caeca: Fibrous adhesions (likely associated with vaccine administration) observed in all fish.

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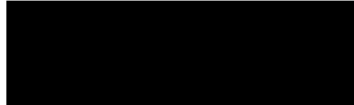
Liver: Sinusoidal hyperaemia observed mainly at the edge of the liver (F4-F5). Hepatocellular vacuolation (macrovesicles), ranging from mild to moderate, diffuse (F1-F5).

Kidney: Within the normal range.

Spleen: Capsulitis (likely associated with vaccine administration), mild, multifocal (F2-F5).

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

Signed:



Date: 27/6/2024

Fish Health Inspector

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 \(www.gov.scot\)](https://www.gov.scot/policies/fish-health-inspectorate/)