| | | | | | |
|---|---|---|---|---|---|
| Case No: | 2022-0485 | | | Date of visit: | 11/10/2022 |
| Time spent on site: | 5 hours | | | Main Inspector: | [redacted] |
| Site No: | FS0851 | Site Name: | Ardgadden | | |
| Business No: | FB0169 | Business Name: | Bakkafrost Scotland | | |

Case Types: 1 ECI 2 CNI 3 SLI 4 VMD 5 DIA 6

| | | | | | |
|---|---|---|---|---|---|
| Water Temp (°C): | 12.6 | Thermometer No: | T155 | FHI 045 completed | |

Observations: Region: ST Water type: S CoGP MA: M-42

| | | |
|---|---|---|
| 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:

| | | | |
|---|---|---|---|
| Case No: | 2022-0485 | Site No: | FS0851 |
| Date of Visit: | 11/10/2022 | 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 | 14 | Facilities stocked | 14 | No facilities inspected | 14 | | |
| Species | Atlantic salmon | | | | | | |
| Age group | 2021 S0 | | | | | | |
| No Fish | 494,461 | | | | | | |
| Mean Fish Wt | 2.9kg | | | | | | |
| Next Fallow Date (Site) | June 2023 | Next Input Date (Site) | Autumn 2023 | | | | |
| Recent (last 4 wks) disease problems? | Y | Any escapes (since last visit)? | N | | | | |
| If yes, detail: | AGD and anaemia, micro-jellies as precursor.(Slight touch of PD - 6 weeks ago in a small no of fish) | | | | | | |

**Movement Records**

| | |
|---|---|
| 1. Movement records available for inspection? | Y |
| 2. Date of last inspection: | 21/10/2020 |
| 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? | Whole fish - Dundas Chemicals |
| If other detail: | |
| 3. Mortality records complete and correctly entered? | Y |
| 4. Recent mortality (last 4 wks): | Lost 53,909 fish - 9.84% for past 4 weeks (wk 37 - 4.05%, 23,990; wk 38 - |
| 5. Evidence of recent increased/atypical mortalities? | Y |

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

2 ~15%/6k; 3 ~30%/10.5k; 6 ~30%/13k; 7 ~ 25%/10k; 10 ~ 24%/10k - Mainly gill health related, some PD impact

| | |
|---|---|
| 6. Any other peaks in mortality during period checked? | Y |
| If yes, detail: | Aug 2022 - 1.6% for site - PD related. Post transfer increase up to 1.53% for site per week (total loss ~ 3.5%). Some increased mortality towards the end of the last cycle - up to 1.7% per week - May/June/July 2021. |
| 7. Have increased (unexplained) mortalities been reported to vet or FHI? | Y |
| If yes, detail action: | Sample analysis undertaken by vet / health manager |
| 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)? | Y |
| If yes, detail: | T.M.S. |
| If other, detail: | |
| 2. Medicines records available for inspection? | Y |
| 3. Are records complete and correctly entered? | Y |
| 4. Are fish in a withdrawal period? | Y |
| 5. If yes, what treatment(s)? | TMS |
| If other, detail: | |
| 6. Are medicines stored appropriately? | Y |

**Biosecurity Records**

| | |
|---|---|
| 1. Biosecurity records available for inspection? | Y |
| 2. Has the manner and frequency of mortality removal, recording and safe disposal been considered? | Y |
| 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? | 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 *how* and *when* that will be notified to Scottish Ministers? | 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)? | 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.)? | Y |
| 7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site? | Y |
| 8. Have the biosecurity procedures been adequately implemented on site? | Y |
| 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? | Y |
| If yes, detail (if not detailed under recent disease problems). | PD, SAV, Gill pathology, AGD, PRV, SGPVD, |
| Records checked between: | |

**Additional Case Information:**

Cleaner fish stocks attributed as black loss. Have experienced poor performance of cleaner fish - both wrasse and lumpfish on site. Constant low level mortality since inputs with occasional instant losses after input. AGD identified within stocks but uncertain of cause of mortality. Company considers no remaining stock on site although a small number of wrasse were observed.

Several lethargic fish (Atlantic salmon) observed across the site but not in great numbers. 3 fish removed for diagnostic sampling.

4 x slice treatments since input, 4 fw,1 Salmosan + FW - whole site. Hydrolysing one and a half rounds.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Case no: | 2022-0485 | Site No: | FS0851 | Date of visit/ Sampling: | 11/10/2022 | 11/1 | | | | | | | |
| Priority samples: | VI | | BA | | PA | | MG | | HI | | | | |
| Time sampling starts/ends: | 12:30:00 | 14:30:00 | Inspector: | | VMD No. | 17 | | | | | | | |
| Environmental conditions: | 1 | Indoors | 2 | Dry | 3 | Sunny | 4 | Cloudy | 5 | | | | |
| Summary samples | HIST | Y | BA | Y | MG | Y | VI | | PA | | Total Samples | | |

**Add Fish/Pools - click**

| | Pool/Fish No | F1 | F2 | F3 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fish nos | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | |
| | Pool Group | | | | | | | | | | | | |
| Stock Details | Species | SAL | SAL | SAL | SAL | SAL | SAL | | | | | | |
| | Average weight | 2.7000 | 2.7000 | 2.7000 | 2.7000 | 2.7000 | 2.7000 | | | | | | |
| | Sex | N/A | N/A | N/A | N/A | N/A | N/A | | | | | | |
| | Water Type | SW | SW | SW | SW | SW | SW | | | | | | |
| | Stock Origin | Applecross | Migdale | Migdale | Migdale | Migdale | Applecross | | | | | | |
| | Facility No | 13 | 6 | 11 | 3 | 7 | 14 | | | | | | |

10/2022 Additional Sample Information:

3 fish standard SW diagnostic sample. VMD only from fish 4, 5 and 6.

3 Total Tests assigned 3

Case no: 2022-0485 Site No: FS0851 Method of killing: Anaesthetic

Date of visit: 11/10/2022 Inspector(s): [redacted] 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) | | | | | | | | | | | |
| External Signs | | | | | | | | | | | |
| Behaviour | Moribund | | | | | | | | | | |
| | Lethargic | S | S | S | | | | | | | |
| | Hanging vertical | | | | | | | | | | |
| | Spiralling | | | | | | | | | | |
| | Flashing | | | | | | | | | | |
| | Loss of equilibrium | | | | | | | | | | |
| Body | Dark | | | M | | | | | | | |
| | Distended abdomen | | | | | | | | | | |
| | Anorexic | | | | | | | | | | |
| | Scale Oedema | | | | | | | | | | |
| Opercula | Shortened | | | | | | | | | | |
| | Flared | | | | | | | | | | |
| Haemorrhaging | Throat | | | | | | | | | | |
| | Ventrum | | | | | | | | | | |
| | Base of fins | | | | | | | | | | |
| | Elsewhere | | | | | | | | | | |
| Eyes | Exophthalmic | | | | | | | | | | |
| | Enophthalmic (sunken) | | | | | | | | | | |
| | Cataract | | | | | | | | | | |
| | Haemorrhagic | | | | | | | | | | |
| Gills | Pale | S | S | S | | | | | | | |
| | Zoned | S | S | S | | | | | | | |
| | Necrotic | W | M | | | | | | | | |
| Lesions | Flank | | | | | | | | | | |
| | Elsewhere | | | | | | | | | | |
| Vent | Inflamed | | | | | | | | | | |
| | Trailing faeces | | | | | | | | | | |
| Lice Load | Estimate numbers | | | | | | | | | | |
| | | | | | | | | | | | |
| Internal Signs | | | | | | | | | | | |
| Ascites | Clear | | | | | | | | | | |
| | Bloody | W | | | | | | | | | |
| Oedema | In tissues | | | | | | | | | | |
| Heart | Pale/anaemic | | | | | | | | | | |
| | Granulomas | | | | | | | | | | |
| | Deformed | | | | | | | | | | |
| Liver | Petechial haem | | W | S | | | | | | | |
| | Gross haem | | | | | | | | | | |
| | Tissue breakdown | | | | | | | | | | |
| | Enlarged | | | | | | | | | | |
| | Colour number(s) | 4 | 4 | 4 | | | | | | | |
| | Granulomas | | | | | | | | | | |
| | Lesions | | | | | | | | | | |
| Pyloric caeca | Petechial haem | | | S | | | | | | | |
| | Tubules mauve | | | | | | | | | | |
| | Lack of fat | | | | | | | | | | |
| Spleen | Enlarged | | | | | | | | | | |
| | Granulomas | | | | | | | | | | |
| Gut | No food present | S | S | S | | | | | | | |
| | Yellow pseudo-faeces | S | S | | | | | | | | |
| | External haem | | | | | | | | | | |
| | Internal haem | | | | | | | | | | |
| Body wall | Haemorrhaging | | W | S | | | | | | | |
| Swim bladder | Haemorrhaging | | W | S | | | | | | | |
| | Fluid filled | | | | | | | | | | |
| Kidney | Swollen | | | | | | | | | | |
| | Grey | | | | | | | | | | |
| | Granular | | | | | | | | | | |
| | Liquefied | | | | | | | | | | |
| General | Parasites present | | | | | | | | | | |
| | Anaemia | | | | | | | | | | |

Case no: 2022-0485

Date of visit: 11/10/2022

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

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fish Number** | | | | | | | | | | | |
| **Time sampled after death (if > 45 minutes)** | | | | | | | | | | | |
| **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** | | | | | | | | | | |
| | **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)** | | | | | | | | | | |
| | **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:

F1 - Grilse like. Haemorrhaging of gills in F3. F1&F2 gills pale and clumped with some haemorrhaging. F3 internal adhesions.

| Case Number: | 2022-0485 | | Site No: | FS0851 | Insp: | |
|---|---|---|---|---|---|---|
| Date of Visit | 11/10/2022 | | | | | |

| **Live fish movements** | | **No of movements/supp./dest.** 0 | 1-5 | 6-10 | >10 | **Score** |
|---|---|---|---|---|---|---|
| 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 |

| **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 | |
| | Collection point for waste from other farms | 5 | 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 | 2 |
| | Sites sharing staff and equipment | 0 | 1 | 2 | 2 |

| | | | |
|---|---|---|---|
| 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** | **24** |
| Rank | **MEDIUM** |

Case No: 2022-0485 Site No: FS0851

Date of Visit: 11/10/2022 Inspector: [redacted]

**Point of Compliance**

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

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

**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? | Y |
| 9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm? | Y |
| 10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm? | Y |
| 11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm? | Y |
| 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? | Y |

**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? | Y |
| 14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement? | Y |
| 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? | Y |
| 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? | Y |
| 17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area? | Y |

**Live Fish Movements**

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

**Harvesting**

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

**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? | Y |
| 22. Does the FMAg/S identify whether one or more year classes may be stocked onto sites covered by the agreement or statement? | Y |
| 23. Does the FMAg/S identify whether broodstock or potential broodstock are to be kept on any site covered by the agreement or statement? | Y |

**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? | N/A |

**Management and operation**

| | |
|---|---|
| 25. Is the fish farm being managed and operated in accordance with the agreement or statement? | Y |
| 26. What is the version no/date of issue of the FMAg/S? | 20/08/2021 |

Case No: 2022-0485 Date of visit: 11/10/2022

Site No: FS0851 Inspector: [redacted]

| Results Summary | Freq. | Date of Notification | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Database | Insp | Phone | Insp | Writing | Insp | 2nd Insp |
| YRUK | 1/3 | 03/11/2022 | | | | 08/12/2022 | | |
| AGDQ | 0/3 | 03/11/2022 | | | | 08/12/2022 | | |
| IHNP | 0/3 | 03/11/2022 | | | | 08/12/2022 | | |
| IPNM | 1/3 | 03/11/2022 | | | | 08/12/2022 | | |
| ISAQ | 0/3 | 03/11/2022 | | | | 08/12/2022 | | |
| PMVP | 0/3 | 03/11/2022 | | | | 08/12/2022 | | |
| SALP | 2/3 | 03/11/2022 | | | | 08/12/2022 | | |
| VHSP | 0/3 | 03/11/2022 | | | | 08/12/2022 | | |
| IHNP | 0/3 | 03/11/2022 | | | | 08/12/2022 | | |
| PNST | 3/3 | 03/11/2022 | | | | 08/12/2022 | | |
| SPVP | 3/3 | 03/11/2022 | | | | 08/12/2022 | | |
| AMGD | 2/3 | 03/11/2022 | | | | 08/12/2022 | | |
| GPAT | 3/3 | 03/11/2022 | | | | 08/12/2022 | | |
| EPIT | 1/3 | 03/11/2022 | | | | 08/12/2022 | | |
| CGDH | 3/3 | 03/11/2022 | | | | 08/12/2022 | | |
| KPAT | 1/3 | 03/11/2022 | | | | 08/12/2022 | | |
| LPAT | 3/3 | 03/11/2022 | | | | 08/12/2022 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

| Report Summary | | | |
|---|---|---|---|
| Case Type | Date | Insp | 2nd Insp |
| ECI, CNI, SLI, VMD | 01/11/2022 | | |
| ECI, CNI, SLI, VMD - re | 22/11/2022 | | |
| DIAG | 08/12/2022 | | |
| | | | |
| | | | |
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| | | | |
| | | | |
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| | | | |
| | | | |
| | | | |

Case No: 2022-0485 Site No: FS0851

**Sea Lice Inspection (Seawater Sites Only)**

| | |
|---|---|
| 1. Has the site experienced sea lice problems in the previous 4 years? | N |
| 2. Is the CoGP Farm Management Area (or equivalent) fallowed synchronously on a single year class basis? | Y |
| 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? | Y |
| 4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equivalent)? | Y |
| 5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6) | Y |
| 6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6) | Y |
| 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) | Y |
| 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 | N |
| If yes, have these been reported to the Fish Health Inspectorate? If no, FHI see comment. | N/A |
| 9. Is *C. elongatus* infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50) | N |
| 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) | Y |
| 11. Has any other action been taken (where applicable)? | N/A |
| 12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded? | Y |
| 13. Are treatments, where conducted, carried out in cooperation between participating farms? | Y |
| 14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for | Y |
| 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised | Y |
| 16. Do the sea lice levels observed on stocks reflect sea lice count data? If no please detail reasons. | Y |

**Containment Inspection**

| | |
|---|---|
| 1. Has the site experienced equipment damage due to predators in the current or previous production cycles? | N |
| 2. Are measures in place to mitigate against the predation experienced on site? (Detail below) | Y |

Seal pro nets, bird nets, double panels on net bottom

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? | N |

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) | Y |

# HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|---|---|---|---|
| **BUSINESS NO** | FB0169 | **DATE OF VISIT** | 11/10/2022 |
| **SITE NO** | FS0851 | **SITE NAME** | Ardgaddan |
| **CASE NO** | 20220485 | **INSPECTOR** | [redacted] |

## Section 1: Summary

During a routine inspection, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009, several moribund and lethargic fish were observed across the site. The site had experienced recent increased mortality, in excess of 9% for the past 4 weeks, which had been attributed to amoebic gill disease and associated anaemia. Diagnostic samples were taken from three fish.

From the case description and information provided by the site and in conjunction with the clinical signs and gross pathology observed, the pathogens identified and histopathological observations from the fish sampled, it is most likely that complex gill disease is the significant factor responsible for the condition of the fish and the mortality being experienced on site.

Histopathology examination revealed focal necrotizing bacterial branchitis associated with complex gill issues and vascular disturbance and necrosis. Amoebic gill disease, epitheliocystis and costia-like parasites were also observed. Gill lesions also displayed features that could potentially be associated with environmental factors/water insult. Mild to moderate, multifocal to coalescence hepatic necrosis and necrotizing nephritis were also observed.

The bacterial species *Yersinia ruckeri* was isolated from one of the fish sampled. The level and purity of this primary fish pathogen would suggest it may be a source of morbidity in one fish but not in the case overall. Molecular genetic testing revealed positive results for infectious pancreatic necrosis virus, Salmonid alphavirus, salmon gill poxvirus and *Paranucleospora theridion*.

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

An inspection was conducted as part of routine surveillance, but also as a consequence of recent increased mortality. During the inspection several lethargic fish were observed across the site. Three of these were removed for closer examination and diagnostic sampling. All three fish had pale, zoned gills with evidence of haemorrhaging. The gills were necrotic in fish 1 and 2. The body of fish 3 appeared to be dark in colour. Internal observations included bloody ascites within the body cavity of fish 1, petechial haemorrhaging across the liver of fish 2 and 3, as well as the pyloric caeca of fish 3 and the body wall and swim bladder of fish 2 and 3. No food was present within the gut of



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all three fish and yellow pseudo-faeces were observed within the gut of fish 1 and 2. Adhesions were observed within the body cavity of fish 3.

Samples

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

| Fish number | Facility number | Species | Stage | Origin |
|---|---|---|---|---|
| 1 | 13 | Atlantic salmon | 2.9 kg / 2021 S0 | Applecross |
| 2 | 6 | Atlantic salmon | 2.9 kg / 2021 S0 | Migdale |
| 3 | 11 | Atlantic salmon | 2.9 kg / 2021 S0 | Migdale |

Results

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

*Yersinia ruckeri* was isolated from the kidney of fish 3.

From the tests conducted, we do not have evidence of resistance to amoxycillin, oxytetracycline, sulphamethoxazole/trimethoprim or florfenicol.

**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** | - | - | - | - | Negative |
| **F2** | - | - | - | - | Negative |
| **F3** | 15.94 | 36.18 | 35.21 | 36.71 | POSITIVE |

Salmonid alphavirus (SAV)

| **Fish Number** | **Endogenous control Cp value** | **Cp Values** | | | **Reported Result (PCR)** |
|---|---|---|---|---|---|
| **F1** | 15.45 | 31.53 | 31.55 | 30.81 | POSITIVE |
| **F2** | - | - | - | - | Negative |
| **F3** | 15.94 | 33.99 | 33.36 | 33.17 | POSITIVE |



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Salmon gill poxvirus (SGPV)

| Fish Number | Endogenous control Cp value | Cp Values | | | Reported Result (PCR) |
|---|---|---|---|---|---|
| **F1** | 23.12 | 23.74 | 23.86 | 23.72 | POSITIVE |
| **F2** | 23.39 | 26.27 | 26.12 | 26.54 | POSITIVE |
| **F3** | 22.86 | 29.61 | 29.45 | 29.38 | POSITIVE |

The samples tested negative for infectious haematopoietic necrosis virus (IHNV), infectious salmon anaemia virus (ISAV), viral haemorrhagic septicemia virus (VHSV) and piscine myocarditis virus (PMCV).

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

*Paranucleospora theridion*

| Fish Number | Endogenous control Cp value | Cp Values | | | Reported Result (PCR) |
|---|---|---|---|---|---|
| **F1** | 23.12 | 32.1 | 32.22 | 32.44 | POSITIVE |
| **F2** | 23.39 | 24.93 | 24.97 | 24.77 | POSITIVE |
| **F3** | 22.86 | 31.05 | 31.17 | 31.15 | POSITIVE |

The samples tested negative for *Neoparamoeba perurans* (AGD).

**Histology:** Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from fish 1-3. The tissue samples were fixed in 10% neutral buffered formalin prior to examination by light microscopy. The following histopathological changes were observed:

Gill: Filament necrosis, haemorrhage, lamellar fusion and a compact layer of mixed Gram-negative bacteria surrounding the filament edge marked, focally extended, and cell debris among gill filaments (F1) and to a lesser extension in F2 and F3. Mild, multifocal hyperplasia and lamellar fusion and presence of few amoeboid cells resembling *Neoparamoeba perurans* observed in F1, F2 and several basophilic epithelial inclusions (likely epitheliocystis) F1. Epithelial lifting and several Costia-like also observed in F3.

Skin & Muscle: Few scattered individual fibre degeneration observed in the skeletal white muscle (F2).

Heart: F1 displayed minor cellular infiltration. F2 & F3 displayed some epicarditis.

Gut and pyloric caeca: Some cell sloughing (potentially associated with post-mortem artefacts) F2-F3.

Pancreas: Within the normal range.



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Liver: Hepatocellular necrosis, mild to multifocal to coalescence (F 2 & F3), some cuffing F3 and some foci hepatocellular vacuolation (macrovisicules) (F1- F3).

Kidney: Interstitial cell (haemopoietic) necrosis and presence of proteinaceous amorphous material Several renal tubules with hyaline droplets F2.

Spleen: Some foci of cellular necrosis (F3), minor cuffing (F1).

Signed: [redacted] Date: 8 December 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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# AMENDED FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|---|---|---|---|
| **BUSINESS NO** | FB0169 | **DATE OF VISIT** | 11/10/2022 |
| **SITE NO** | FS0851 | **SITE NAME** | Ardgaddan |
| **CASE NO** | 20220485 | **INSPECTOR** | [redacted] |

This report replaces the fish health report R25 issued on 3 November 2022, amending the section concerning mortality reporting to the Fish Health Inspectorate. The previous report should be discarded.

**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.

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.



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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: 22 November 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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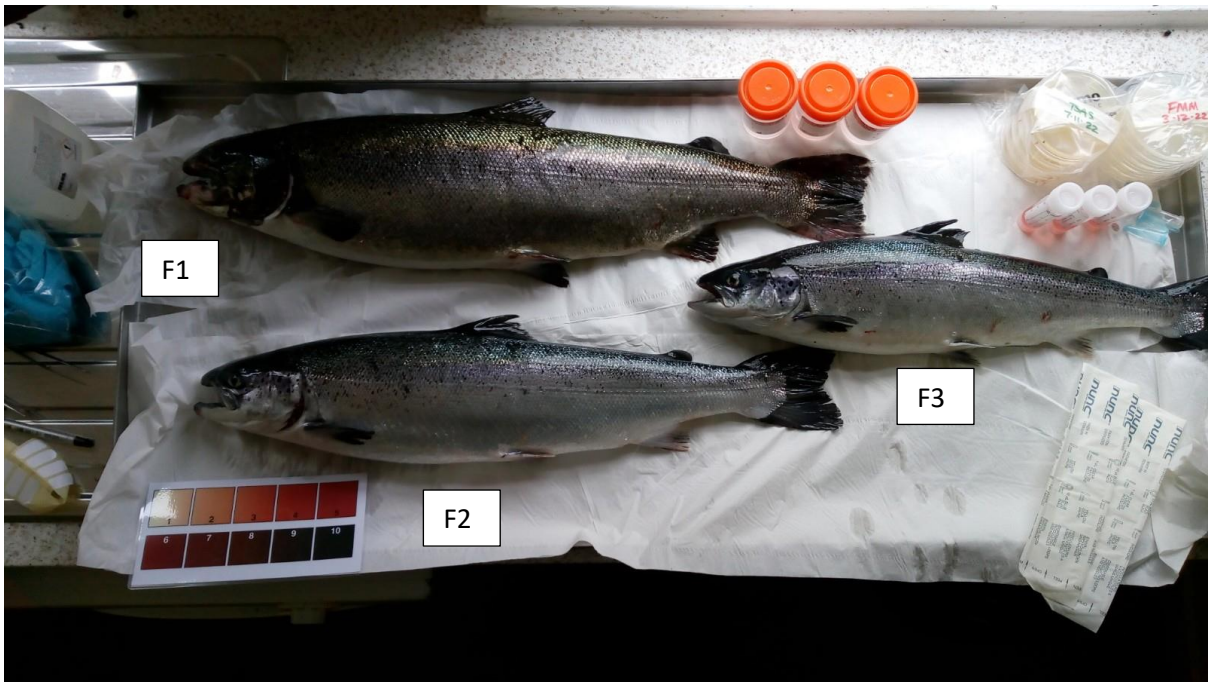
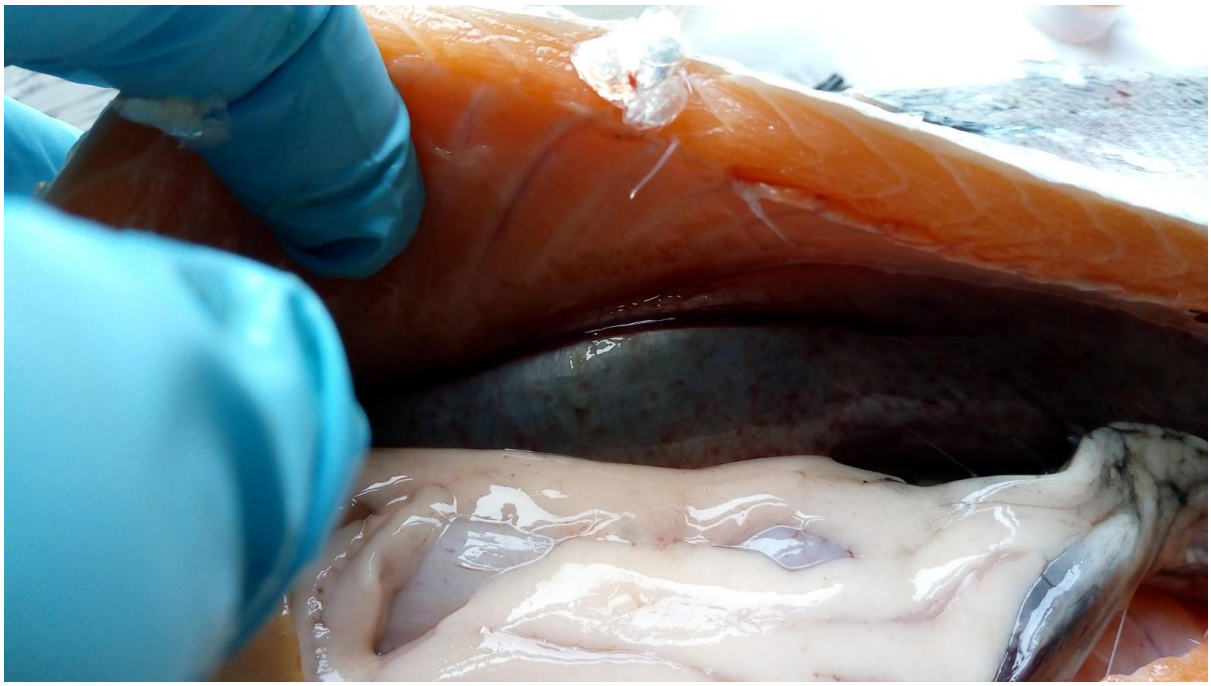
Ardgadden – 2022-0485



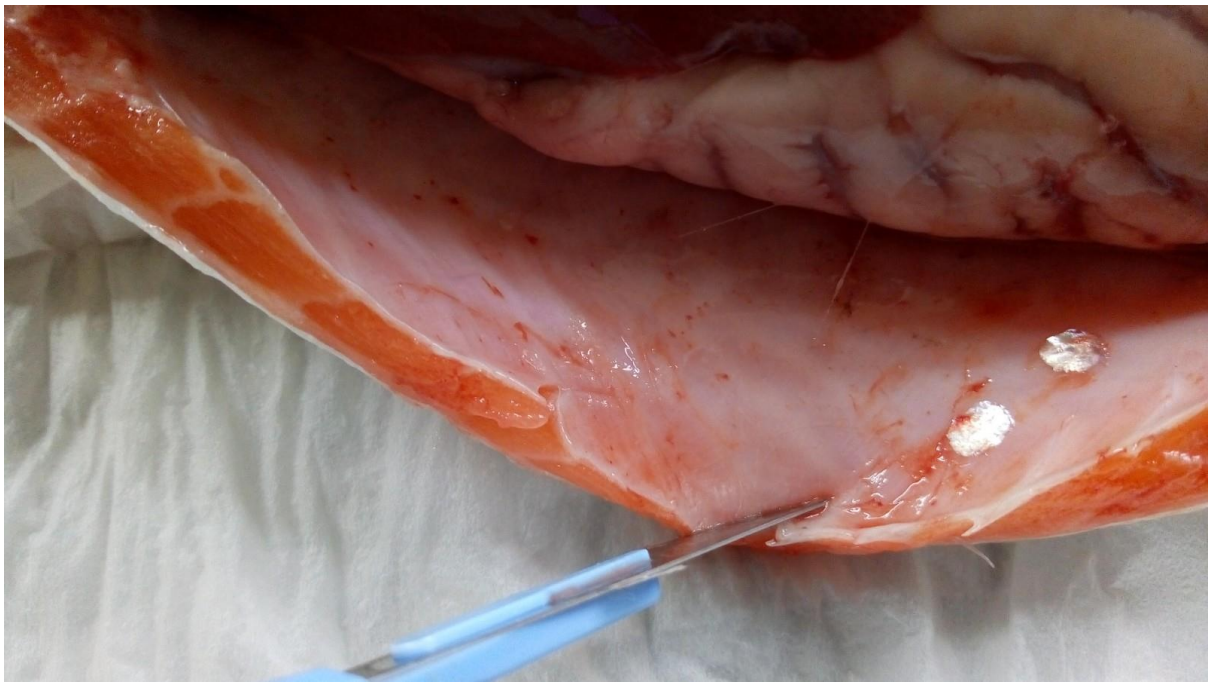

Fish 1 – Pale clumped gills with necrosis

Fish 2  - Pale clumped gills with necrosis and haemorrhaging

Fish 3  - pale gills with some clumping and haemorrhage



Fish 3  - Internal haemorrhaging over the swim bladder



Fish  2 - slight internal haemorrhaging over the body wall

Case No: 2022-0486 Date of visit: 11/10/2022

Time spent on site: 3 hours Main Inspector: [redacted]

Site No: FS1019 Site Name: Strondoir Bay
Business No: FB0169 Business Name: Bakkafrost Scotland

Case Types: 1 REP 2 DIA 3 4 5 6

Water Temp (°C): 12.6 Thermometer No: T155 FHI 045 completed

Observations: Region: ST Water type: S CoGP MA: M-42

| | | |
|---|---|---|
| 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:

| | | | |
|---|---|---|---|
| Case No: | 2022-0486 | Site No: | FS1019 |
| Date of Visit: | 11/10/2022 | 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 | 10 | No facilities inspected | 5 | | |
| Species | Atlantic slamon | | | | | | |
| Age group | 2021 S0 | | | | | | |
| No Fish | 359,815 | | | | | | |
| Mean Fish Wt | 2.2 | | | | | | |
| Next Fallow Date (Site) | Summer 2023 | | Next Input Date (Site) | Autumn 2023 | | | |
| Recent (last 4 wks) disease problems? | | Y | Any escapes (since last visit)? | N | | | |
| If yes, detail: | AGD & Anaemia, PD at beginning of the year / end last year - continued negative impact and feeding | | | | | | |

**Movement Records**

| | |
|---|---|
| 1. Movement records available for inspection? | Y |
| 2. Date of last inspection: | 12/05/2021 |
| 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? | Whole fish - Dundas Chemicals |
| If other detail: | |
| 3. Mortality records complete and correctly entered? | Y |
| 4. Recent mortality (last 4 wks): | Lost 70,998 fish - 17.37% for past 4 weeks - (wk 37 - 2.88%, 12,407; wk 38 - |
| 5. Evidence of recent increased/atypical mortalities? | Y |

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

Losses ranging 23-50% per cage since beginning August 2022. Attributed to gill issues. Cage 8 - 50%/19K; cage 4 37%/17k; Cage 3 -38%/17k; cage 2 - 41%/16k. Total loss for period 153k.

| | |
|---|---|
| 6. Any other peaks in mortality during period checked? | Y |
| If yes, detail: | Some mortality following input Oct 2021 (transfer). Following this grumbling mortality through to April 2022 (PD). From july onwards 2022, increasing mortality associated with gill issues. |
| 7. Have increased (unexplained) mortalities been reported to vet or FHI? | Y |
| If yes, detail action: | Sampling activity - see under results of surveillance |
| 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)? | Y |
| If yes, detail: | T.M.S. |
| If other, detail: | FW treatment finished last week |
| 2. Medicines records available for inspection? | Y |
| 3. Are records complete and correctly entered? | Y |
| 4. Are fish in a withdrawal period? | Y |
| 5. If yes, what treatment(s)? | T.M.S. |
| If other, detail: | |
| 6. Are medicines stored appropriately? | Y |

**Biosecurity Records**

| | |
|---|---|
| 1. Biosecurity records available for inspection? | Y |
| 2. Has the manner and frequency of mortality removal, recording and safe disposal been considered? | Y |
| 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? | 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 *how* and *when* that will be notified to Scottish Ministers? | 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)? | 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.)? | Y |
| 7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site? | Y |
| 8. Have the biosecurity procedures been adequately implemented on site? | Y |
| 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? | Y |
| If yes, detail (if not detailed under recent disease problems). | PD, anaemia and AGD |
| Records checked between: | 12/05/21 to 11/10/2022 |

**Additional Case Information:**

Cleaner fish stocks attributed as black loss. Poor performace of cleaner fish - both wrasse and lumpfish on site. Constant low level mortality since inputs with occasional instant losses after input. AGD identified within stocks but uncertain of cause of mortality. Site considers that no stocks remain on site, although several wrasse observed in some of the cages.

Several moribund fish observed although not in vast numbers. Occasional fish observed with sea lice damage to the head. Diagnostic samples taken from 4 fish.

Additional treatments in cycle - 4 x FW treatments, 1 FW and Salmosan, 4 x slice treatments, 2 rounds of hydrolysing

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Case no: | 2022-0486 | Site No: | FS1019 | Date of visit/ Sampling: | 11/10/2022 | 12/1 | | | | | | | |
| Priority samples: | VI | | BA | | PA | | MG | | HI | | | | |
| Time sampling starts/ends: | 15:45:00 | 17:00:00 | Inspector: | | VMD No. | 0 | | | | | | | |
| Environmental conditions: | 1 | Indoors | 2 | | 3 | | 4 | | 5 | | | | |
| Summary samples | HIST | Y | BA | Y | MG | Y | VI | | PA | | Total Samples | | |

**Add Fish/Pools - click**

| | Pool/Fish No | F1 | F2 | F3 | F4 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fish nos | 1 | 2 | 3 | 4 | | | | | | | | |
| | Pool Group | | | | | | | | | | | | |
| Stock Details | Species | SAL | SAL | SAL | SAL | | | | | | | | |
| | Average weight | 2.2000 | 2.2000 | 2.2000 | 2.2000 | | | | | | | | |
| | Sex | N/A | N/A | N/A | N/A | | | | | | | | |
| | Water Type | SW | SW | SW | SW | | | | | | | | |
| | Stock Origin | Landcatch | Landcatch | Landcatch | Landcatch | | | | | | | | |
| | Facility No | 3 | 3 | 4 | 4 | | | | | | | | |

12/2022 Additional Sample Information:

SW 4 fish standard diagnostic sample

4 Total Tests assigned 3

| Case no: | 2022-0486 | Site No: | FS1019 | Method of killing: | Anaesthetic |
|---|---|---|---|---|---|
| Date of visit: | 11/10/2022 | Inspector(s): | [redacted] | Sheet Relevant: | Y |

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

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

Case no: 2022-0486

Date of visit: 11/10/2022

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

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fish Number** | | | | | | | | | | | |
| **Time sampled after death (if > 45 minutes)** | | | | | | | | | | | |
| **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** | | | | | | | | | | |
| | **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)** | | | | | | | | | | |
| | **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:

F1 & F2 - blood clot over the liver. Strong haemorrhaging over gills of F4, weak haemorrhaging over the gills of F2 & F3. Adhesions observed in all fish. F1 showed an area of extensive haemorrage and bruising on the internal wall of the body cavity - sample taken for histology.

Site No: FS1019

Case No: 2022-0486

Nature of non-compliance:

Action taken (FHI):

Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology

Case No: 2022-0486 Date of visit: 11/10/2022

Site No: FS1019 Inspector: [redacted]

| Results Summary | Freq. | Date of Notification | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Database | Insp | Phone | Insp | Writing | Insp | 2nd Insp |
| ASAL | 2/4 | 03/11/2022 | | | | 08/12/2022 | | |
| YRUK | 1/4 | 03/11/2022 | | | | 08/12/2022 | | |
| AERH | 2/4 | 03/11/2022 | | | | 08/12/2022 | | |
| GPAT | 4/4 | 03/11/2022 | | | | 08/12/2022 | | |
| EPIT | 1/4 | 03/11/2022 | | | | 08/12/2022 | | |
| CGDH | 4/4 | 03/11/2022 | | | | 08/12/2022 | | |
| AGDQ | 1/4 | 03/11/2022 | | | | 08/12/2022 | | |
| IHNP | 0/4 | 03/11/2022 | | | | 08/12/2022 | | |
| IPNM | 0/4 | 03/11/2022 | | | | 08/12/2022 | | |
| ISAQ | 0/4 | 03/11/2022 | | | | 08/12/2022 | | |
| PMVP | 0/4 | 03/11/2022 | | | | 08/12/2022 | | |
| SALP | 0/4 | 03/11/2022 | | | | 08/12/2022 | | |
| PNST | 4/4 | 03/11/2022 | | | | 08/12/2022 | | |
| SPVP | 4/4 | 03/11/2022 | | | | 08/12/2022 | | |
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| Report Summary | | | |
|---|---|---|---|
| Case Type | Date | Insp | 2nd Insp |
| DIA | 08/12/2022 | | |
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# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|---|---|---|---|
| **BUSINESS NO** | FB0169 | **DATE OF VISIT** | 11/10/2022 |
| **SITE NO** | FS1019 | **SITE NAME** | Strondoir Bay |
| **CASE NO** | 20220486 | **INSPECTOR** | [redacted] |

## Section 1: Summary

Following a report of increased mortality, an inspection of the site was conducted and diagnostic sampling undertaken. Increased mortality of over 17% had been experienced for the four weeks preceding the visit and had been attributed to amoebic gill disease and anaemia. Diagnostic samples were taken from 4 fish.

From the case description and information provided by the site and in conjunction with the clinical signs and gross pathology observed, the pathogens identified and histopathological observations from the fish sampled, it is most likely that complex gill disease is the significant factor responsible for the condition of the fish and the mortality being experienced on site.

Histopathology examination revealed features consistent with *Aeromonas salmonicida* (furunculosis) and complex gill issues, along with mild, multifocal hepatic and splenic necrosis.

The bacterial species *Yersinia ruckeri* and *Aeromonas salmonicida* subsp. *salmonicida* were isolated from the samples taken. Both are primary fish pathogens and the level and purity would suggest they are contributary factors in the morbidity of this case. Molecular genetic testing revealed positive results for *Neoparamoeba perurans* (the causative agent of amoebic gill disease), salmon gill poxvirus and *Paranucleospora theridion*.

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

An inspection was conducted in response to increased mortality experienced on the site. During the inspection several moribund fish were observed across the cages inspected. The occasional fish showed damage to the head suspected to be a result of sea lice infestation. Four fish were removed from the site for closer examination and diagnostic sampling. All four fish appeared to be lethargic in behaviour and fish 3 and 4 were moribund. External haemorrhaging across the ventrum was observed on fish 2. All fish had pale and zoned gills which appeared necrotic in fish 1, 2 and 4 and haemorrhagic in fish 2, 3 and 4. Internally, clear ascites (fish 2) and bloody ascites (fish 1) was observed within the body cavity. The heart appeared anaemic in fish 2 and 4. Petechial haemorrhaging was observed across the liver of fish 1, which also showed extensive haemorrhage



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Website - www.gov.scot/Topics/marine/science

and bruising on the internal wall of the body cavity. None of the fish had food present within the gut and yellow faecal casts were observed within fish 4.

Samples

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

| Fish number | Facility number | Species | Stage | Origin |
|---|---|---|---|---|
| 1 | 3 | Atlantic salmon | 2.2 kg / 2021 S0 | Landcatch |
| 2 | 3 | Atlantic salmon | 2.2 kg / 2021 S0 | Landcatch |
| 3 | 4 | Atlantic salmon | 2.2 kg / 2021 S0 | Landcatch |
| 4 | 4 | Atlantic salmon | 2.2 kg / 2021 S0 | Landcatch |

Results

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

The following bacteria were isolated from fish F1-F4:

- *Yersinia ruckeri:* F3 (Kidney);
- *Aeromonas salmonicida* subsp. *salmonicida*: F1 & F2 (Kidney)

From the tests conducted, we do not have evidence of either isolates being resistance to amoxycillin, oxytetracycline, sulphamethoxazole/trimethoprim or florfenicol.

**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** | 22.76 | 25.76 | 26.15 | 26.17 | POSITIVE |
| **F2** | 23.61 | 28.61 | 28.75 | 28.55 | POSITIVE |
| **F3** | 23.52 | 33.03 | 32.99 | 33.32 | POSITIVE |
| **F4** | 23.65 | 37.91 | 38.13 | 38.02 | POSITIVE |

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

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



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*Neoparamoeba perurans* (AGD)

| Fish Number | Endogenous control Cp value | Cp Values | | | Reported Result (PCR) |
|---|---|---|---|---|---|
| **F1** | - | - | - | - | Negative |
| **F2** | - | - | - | - | Negative |
| **F3** | - | - | - | - | Negative |
| **F4** | 23.65 | 33.02 | 32.80 | 33.09 | POSITIVE |

*Paranucleospora theridion*

| Fish Number | Endogenous control Cp value | Cp Values | | | Reported Result (PCR) |
|---|---|---|---|---|---|
| **F1** | 22.76 | 28.64 | 28.95 | 28.92 | POSITIVE |
| **F2** | 23.61 | 33.20 | 33.54 | 32.88 | POSITIVE |
| **F3** | 23.52 | 32.55 | 32.47 | 32.57 | POSITIVE |
| **F4** | 23.65 | 32.63 | 32.22 | 32.13 | POSITIVE |

**Histology:** Tissue samples of gill, skin and skeletal muscle, heart, pyloric caeca, pancreas, hind gut, liver, spleen and kidney were taken from fish 1-4. The tissue samples were fixed in 10% neutral buffered formalin prior to examination by light microscopy. The following histopathological changes were observed:

Gill: Lamellar hyperplasia, multifocal, several, mild in all fish and presence of several dense aggregates of Gram-negative bacteria (F1 & F2). Filament tip bluntness and necrosis, increase of eosinophilic granular cells at the filament centre observed in F3. Occasional basophilic epithelial inclusions (likely epitheliocystis) (F4). Lamellar telangiectasia with multifocal thrombosis in all fish.

Skin & Muscle: Lesion: musculature necrosis and mild haemorrhage (F1).

Heart: F1 display several small dense aggregates of Gram-negative bacteria in the two chambers. F2 displayed marked epicarditis and displayed a pustule-like lesion filled with mostly neutrophil-like granulocytes.

Gut and pyloric caeca: Mild cell sloughing (potentially associated with post-mortem artefact) (F3).

Pancreas: Within the normal range.

Liver: Hepatocellular necrosis, mild, multifocal (F1, F3, F4) and mild infiltration (F3), some mild, diffuse hepatocellular vacuolation (macrovisicules) (F1- F3).

Kidney: Some renal tubular dilation, some shrunken glomeruli and interstitial cell (haemopoietic) necrosis (F1).

Spleen: cellular necrosis, mild, multifocal (F3), some cuffing (F4).



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Signed: [redacted] Date: 8 December 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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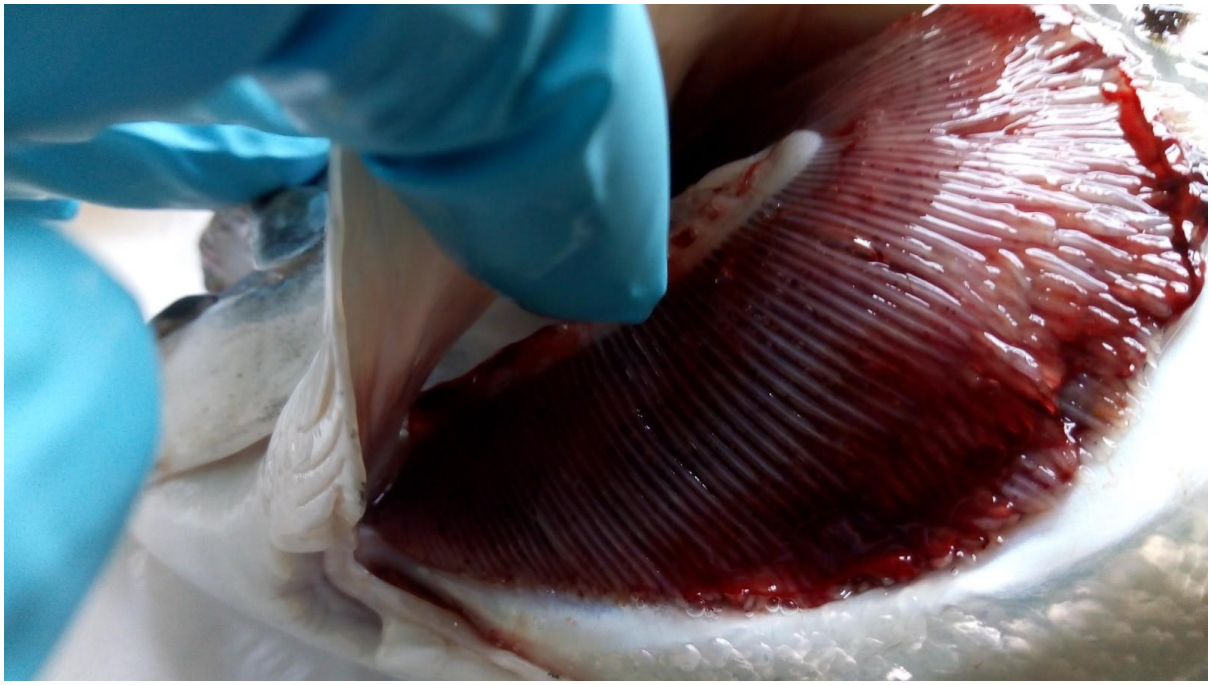
Website - www.gov.scot/Topics/marine/science

Strondoir Bay – 2022-486

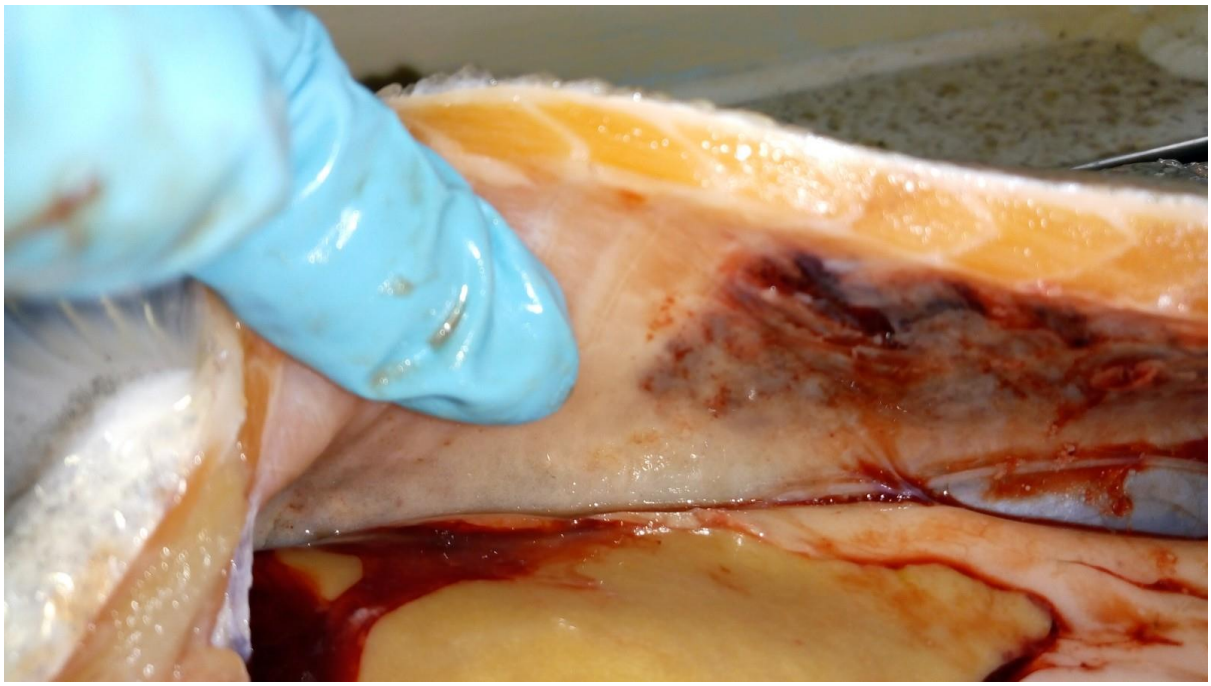

Fish 1 – Pale, zoned, necrotic gills

Fish 2 – Pale, zoned, clumped necrotic gills with slight haemorrhaging

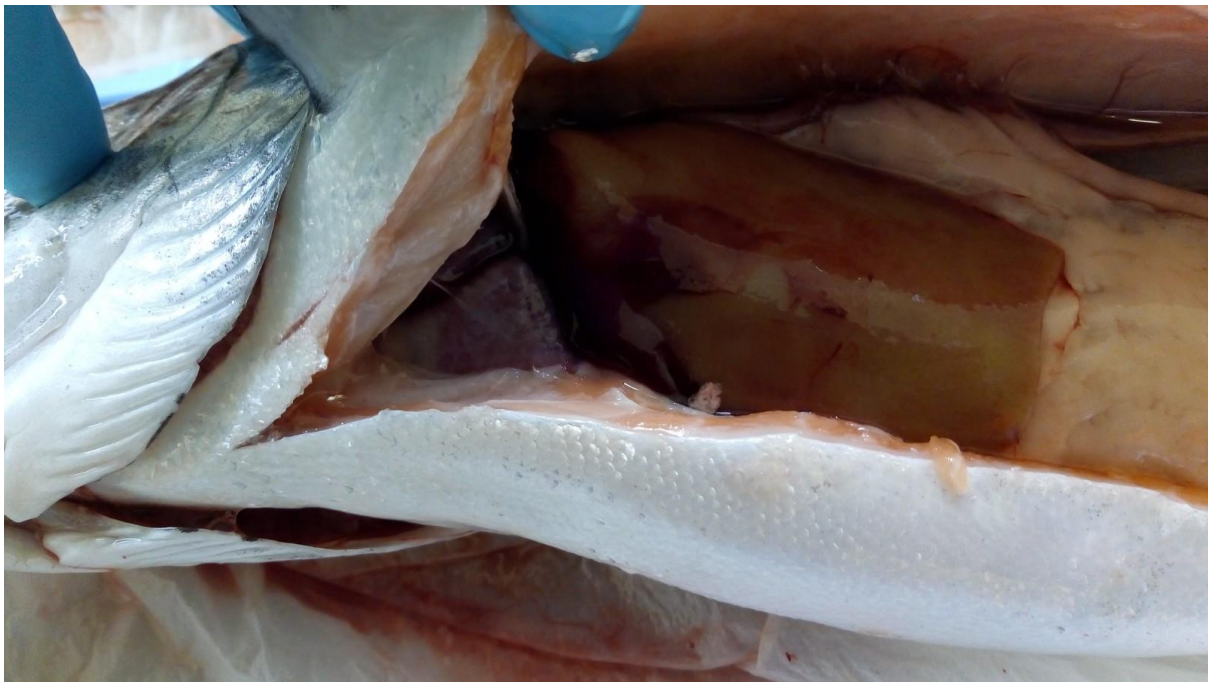
Fish 3 – Pale zoned gills with slight haemorrhaging



Fish 4 – Pale, zoned necrotic gills with haemorrhaging



Fish 1 – Blood clot over the liver. Extensive haemorrhaging and bruising on the internal wall of the body cavity



Fish 2 – Blood clot over the liver

Case No: 2022-0520 Date of visit: 25/10/2022

Time spent on site: 1 hour Main Inspector: [redacted]

Site No: SS0952 Site Name: Allanton Park Quarantine
Business No: SB0565 Business Name: Clyde Porpoise CIC

Case Types: 1 REG 2 3 4 5 6

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

Observations: Region: ST Water type: S 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:**

Site is used to store stock before transfer to Largs Yacht Haven, or Marina sites. It is currently fallow and there are no plans to put in stock, but the operator wishes it to remain active at the moment.

Case No: 2022-0520 Site No: SS0952

Date of Visit: 25/10/2022 Inspector [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 | 1 | Facilities stocked | | 0 | No facilities inspected | | 0 |
| Species | Fallow | | | | | | |
| Age group | | | | | | | |
| No Fish | | | | | | | |
| Mean Fish Wt | | | | | | | |

| | | | |
|---|---|---|---|
| Next Fallow Date (Site) | | Next Input Date (Site) | |
| Recent (last 4 wks) disease problems? | N | Any escapes (since last visit)? | N |
| If yes, detail: | | | |

**Movement Records**

| | |
|---|---|
| 1. Movement records available for inspection? | Y |
| 2. Date of last inspection: | First Inspection |
| 3. Are records complete and correctly entered? | Y |
| 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)? | |
| If yes, is there a system in place for maintenance of transportation records? | |

**Mortality Records**

| | |
|---|---|
| 1. Mortality records available for inspection? | Y |
| 2. How are mortalities disposed of? | Other (detail) |
| If other detail: | Empty shells sent to landfill |
| 3. Mortality records complete and correctly entered? | N/A |
| 4. Recent mortality (last 4 wks): | No observed mortality/No stock has been onsite for some time |
| 5. Evidence of recent increased/atypical mortalities? | N/A |

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

| | |
|---|---|
| 6. Any other peaks in mortality during period checked? | N/A |
| If yes, detail: | |
| 7. Have increased (unexplained) mortalities been reported to vet or FHI? | N/A |
| If yes, detail action: | |
| 8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet. | N/A |

**Treatments and Medicines Records**

1. Recent treatments (see comment)?
If yes, detail:
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)?
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: First inspection

Case No: 2022-0520 Date of visit: 25/10/2022

Site No: SS0952 Inspector: [redacted]

| Results Summary | Freq. | Date of Notification | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Database | Insp | Phone | Insp | Writing | Insp | 2nd Insp |
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| Report Summary | | | |
|---|---|---|---|
| Case Type | Date | Insp | 2nd Insp |
| REG | 12/12/2022 | | |
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# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|---|---|---|---|
| **BUSINESS NO** | SB0565 | **DATE OF VISIT** | 25/10/2022 |
| **SITE NO** | SS0952 | **SITE NAME** | Allanton Park Quarantine |
| **CASE NO** | 20220520 | **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.

On this occasion, the site was found to be fallow.

Records

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.

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

Signed: [redacted] Date: 23/12/2022

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



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Case No: 2022-0524 Date of visit: 26/10/2022

Time spent on site: 2.5 hours Main Inspector: [redacted]

Site No: FS0537 Site Name: Invicta Trout
Business No: FB0007 Business Name: Invicta Trout Ltd

Case Types: 1 ECI 2 CNI 3 4 5 6

Water Temp (°C): 7.5 Thermometer No: Site FHI 045 completed

Observations: Region: DG Water type: F CoGP MA:

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

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

**Additional Case Information:**

Bout of PKD treated with antibiotics. Increased mortalities over the last couple of months due to PKD. This has been treated with antibiotics and mortalites have reduced.

Aquatet treatment 26/09/2022

Issues with water quality on site, which has been reported to SEPA.

Case No: 2022-0524 Site No: FS0537

Date of Visit: 26/10/2022 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 | 50 | Facilities stocked | 44 | No facilities inspected | 50 | | | |
| Species | RTR | RTR | RTR | TRT | TRT | RTR | Tiger | Tiger |
| Age group | 2020 | 2021 | 2022 | 2022 | 2021 | 2019 | 2022 | 2019 |
| No Fish | 25,000 | 40,000 | 51,000 | 2,500 | 2,500 | 30,000 | 2,000 | 5,000 |
| Mean Fish Wt | 350g | 100g | 20g | 21g | 800g | 500g-1Kg | 20g | 1 Kg |
| Next Fallow Date (Site) | No plans | | Next Input Date (Site) | | 28/10/22 | | | |
| Recent (last 4 wks) disease problems? | | | Y | Any escapes (since last visit)? | | | | N |
| If yes, detail: | Bacterial infection | | | | | | | |

**Movement Records**

| | |
|---|---|
| 1. Movement records available for inspection? | Y |
| 2. Date of last inspection: | 07/12/2021 |
| 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? | Y |

**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? | Other (detail) |
| If other detail: | Mortalities disposed of by local company, Oakbank, and used for oil. |
| 3. Mortality records complete and correctly entered? | Y |
| 4. Recent mortality (last 4 wks): | <200 per week acorss the site |
| 5. Evidence of recent increased/atypical mortalities? | Y |

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

See additional comments

| | |
|---|---|
| 6. Any other peaks in mortality during period checked? | N |
| If yes, detail: | |
| 7. Have increased (unexplained) mortalities been reported to vet or FHI? | N/A |
| If yes, detail action: | |
| 8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet. | N/A |

**Treatments and Medicines Records**

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

**Biosecurity Records**

| | |
|---|---|
| 1. Biosecurity records available for inspection? | Y |
| 2. Has the manner and frequency of mortality removal, recording and safe disposal been considered? | Y |
| 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? | 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 *how* and *when* that will be notified to Scottish Ministers? | 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)? | 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.)? | Y |
| 7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site? | Y |
| 8. Have the biosecurity procedures been adequately implemented on site? | Y |
| 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: | 07/12/2021 - 26/10/2022 |

| Case Number: | 2022-0524 | | Site No: | FS0537 | Insp: | |
|---|---|---|---|---|---|---|
| Date of Visit | 26/10/2022 | | | | | |

| | | 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 | |
| | Frequency of movements on from equivalent zone or compartment including third country | 0 | 9 | 18 | 26 | 9 |
| | Number of suppliers | 0 | 5 | 10 | 14 | 5 |
| Movements off | Frequency of movements off | 0 | 3 | 6 | 10 | 10 |
| | Number of destinations | 0 | 3 | 6 | 10 | 10 |

| | | | | | |
|---|---|---|---|---|---|
| **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 | 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 | |
| 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** | **36** |
| Rank | **HIGH** |

Case 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 emame 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 equiv

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 inspecte

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

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 fo

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

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)

Float line

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, CoG

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)

2022-0524 Site No: FS0537

ectin benzoate) as well as access to suitable biological and/or mechanical control measures, and can

valent)?

d? (CoGP Annex 6)

w/b 10/6/19) during the period that records are inspected?

treatment or where *C. elongatus* is considered to have welfare implications? (CoGP 4.3.82, 5.3.51)

the escalation of a sea lice infestation?

N
Y

Electric fence

N

P – 4.4.38, 5.4.18)

Y

Case No: 2022-0524 Date of visit: 26/10/2022

Site No: FS0537 Inspector: [redacted]

| Results Summary | Freq. | Date of Notification | | | | | | |
|---|---|---|---|---|---|---|---|---|
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| Report Summary | | | |
|---|---|---|---|
| Case Type | Date | Insp | 2nd Insp |
| ECI, CNI | 13/12/2022 | | |
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# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|---|---|---|---|
| **BUSINESS NO** | FB0007 | **DATE OF VISIT** | 26/10/2022 |
| **SITE NO** | FS0537 | **SITE NAME** | Invicta Trout |
| **CASE NO** | 20220524 | **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. 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 high. An inspection under the Aquatic Animal Health (Scotland) Regulations 2009 will be conducted annually. 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.

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**



Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Email – ms.fishhealth@gov.scot
Website - https://www.gov.scot/policies/fish-health-inspectorate/

Medicine records were inspected and found to be adequately maintained.

**Inspection under the Aquaculture and Fisheries (Scotland) Act 2007**

The site was also inspected in accordance with the Aquaculture and Fisheries (Scotland) Act 2007 with respect to section 5 regarding containment and escapes.

On this occasion the site was found to be satisfactory.
Please contact myself or the duty inspector should you require any further information or have any queries regarding this report.

Signed: [redacted] Date: 13/12/2022

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/



Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Email – ms.fishhealth@gov.scot
Website - https://www.gov.scot/policies/fish-health-inspectorate/

Case No: 2022-0525 Date of visit: 10/10/2022

Time spent on site: 1 hour Main Inspector: [redacted]

Site No: FS0986 Site Name: Graham Kerr Building
Business No: FB0400 Business Name: Glasgow University

Case Types: 1 REG 2 3 4 5 6

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

Observations: Region: ST 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:**

Site visit to ensure authorisation details are up to date.

The site is an aquarium facility used for research purposes and only hold non-susceptible species for research purposes.

Movements are maintained in movement logs held within their own systems. There is also a licence in place from the home office for the purposes of their research and they are regularly audit to maintain this licence.

Mortalities are recorded on mortality sheets within the tank rooms, generally speaking, there are very few mortalities and fish that look sick are culled.

Case No: 2022-0525 Site No: FS0986

Date of Visit: 10/10/2022 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 | 191 | Facilities stocked | | 110 | No facilities inspected | | 191 |
| Species | N/A | | | | | | |
| Age group | | | | | | | |
| No Fish | | | | | | | |
| Mean Fish Wt | | | | | | | |
| Next Fallow Date (Site) | | Next Input Date (Site) | | | | | |
| Recent (last 4 wks) disease problems? | N | Any escapes (since last visit)? | | | N | | |
| If yes, detail: | | | | | | | |

**Movement Records**

| | |
|---|---|
| 1. Movement records available for inspection? | Y |
| 2. Date of last inspection: | 20/08/2009 |
| 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? | Y |

**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? | N/A |
| 2. How are mortalities disposed of? | Other (detail) |
| If other detail: | Waste is disposed of through a biosecure waste processing company |
| 3. Mortality records complete and correctly entered? | N/A |
| 4. Recent mortality (last 4 wks): | Low mortality <10 across the site |
| 5. Evidence of recent increased/atypical mortalities? | N/A |
| If yes, facility nos/no mortality per facility/no stock per facility/reason: | |
| 6. Any other peaks in mortality during period checked? | N/A |
| If yes, detail: | |
| 7. Have increased (unexplained) mortalities been reported to vet or FHI? | N/A |
| If yes, detail action: | |
| 8. Have 'mortality events' been reported to FHI? If no, enter details on mortality events sheet. | N/A |

**Treatments and Medicines Records**

| | |
|---|---|
| 1. Recent treatments (see comment)? | |
| If yes, detail: | |
| 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)? | |
| 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: | 20/08/2009 - 10/10/2022 |

Case No: 2022-0525 Date of visit: 10/10/2022

Site No: FS0986 Inspector: [redacted]

| Results Summary | Freq. | Date of Notification | | | | | | |
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| Report Summary | | | |
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| Case Type | Date | Insp | 2nd Insp |
| REG | 19/04/2023 | | |
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# FISH HEALTH INSPECTORATE VISIT REPORT

## SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|---|---|---|---|
| **BUSINESS NO** | FB0400 | **DATE OF VISIT** | 27/10/2022 |
| **SITE NO** | FS0986 | **SITE NAME** | Graham Kerr Building |
| **CASE NO** | 20220525 | **INSPECTOR** | [redacted] |

The above site was inspected, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009.

Records

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.

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

Signed: [redacted] Date: 19/04/2023

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



Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB
Tel – 0131 244 3498 Fax – 0131 244 0944 Email – ms.fishhealth@gov.scot
Website - www.gov.scot/Topics/marine/science