

Case No: Date of visit:

Time spent on site: Main Inspector:

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

Case Types: 1 2 3 4 5 6

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

Observations: Region: ST Water type: S CoGP MA M-40

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

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

Additional Case Information:

Fish put onto site last week from Kames West and Torhouse Mill. Partly grown here before being moved back to Shuna Castle or Kames West.

Fish input (5/10/18) from Selcoth to Kames West and now at East. Arrived with suspected RMS but histo indicated more likely to be abrasions damage. Histo and gram staining by Fish Vet Group. Fish have improved and healed. From health report; "skin pathology likely to represent abrasion or surface trauma and no clear evidence of RMS. Gram stain negative".

Morts are ensiled at pier. Ensiled material moving off site recorded in waste notes. Info on waste notes but recorded as one figure for all MH and Kames sites.

Fish removed dead for harvest recorded in harvest advise schedule (HAS). Missing destination but has been only one destination in past. Going forward will be harvested to South Shian and Edinburgh Smoked Salmon in Dingwall. Will add destination to HAS.

Prior to current input fish were moved off site to Kames West in April 2017. No reported issues in this cycle.

Sample weighing TMS used

Salmosan, slice, alphamax. Shuna and Kames West treated this year; bath treatment April/ May 2018 salmosan; March Salmosan; Feb 18 West salmosan.

No lice counts as yet at East yest as fish were only put onto site last week, however were undertaken at West to specified requirements and will be carried out the same at East.

FMA until 2018 Need an 2018-2020. Received V8 Feb 2019, 4/3/19

SOP for lice procedures. No doc with procedures or detail of when to treat.

Case No: Site No:
 Date of Visit: Inspector(s):

Registration/Authorisation Details

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

Site Details

| | | | | | |
|-------------------------|--|------------------------|--|-------------------------|--------------------------------|
| Total No facilities | <input type="text" value="6"/> | Facilities stocked | <input type="text" value="3"/> | No facilities inspected | <input type="text" value="6"/> |
| Species | <input type="text" value="RTR"/> | | | | |
| Age group | <input type="text" value="2017 hat"/> | | | | |
| No Fish | <input type="text" value="138,304"/> | | | | |
| Mean Fish Wt | <input type="text" value="328g"/> | | | | |
| Next Fallow Date (Site) | <input type="text" value="July 2020"/> | Next Input Date (Site) | <input type="text" value="this month from Selcoth&Torhouse."/> | | |

Recent (last 4 wks) disease problems? Any escapes (since last visit)?
 If yes, detail:

Movement Records

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

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?
 If other detail:
 3. Mortality records complete and correctly entered?
 4. Recent mortality (last 4 wks):
 5. Evidence of recent increased/atypical mortalities?
 If yes, facility nos/no mortality per facility/no stock per facility/reason:

6. Any other peaks in mortality during period checked?
 If yes, detail:
 7. Have increased (unexplained) mortalities been reported to vet or FHI?
 If yes, detail action:
 8. Have 'mortality events' been reported to FHI? If no, add MRT case and enter on mortality events sheet.

| | | |
|--|--------------------------|---|
| 1. Recent treatments (last 4 wks)? | <input type="checkbox"/> | Y |
| If yes, detail: | TMS | |
| If other, detail: | | |
| 2. Medicines records available for inspection? | <input type="checkbox"/> | Y |
| 3. Are records complete and correctly entered? | <input type="checkbox"/> | Y |
| 4. Are fish in a withdrawal period? | <input type="checkbox"/> | Y |
| 5. If yes, what treatment(s)? | TMS | |
| If other, detail: | | |
| 6. Are medicines stored appropriately? | <input type="checkbox"/> | Y |

Biosecurity Records

| | | |
|--|--------------------------|---|
| 1. Biosecurity records available for inspection? | <input type="checkbox"/> | Y |
| 2. Has the manner and frequency of mortality removal, recording and safe disposal been considered? | <input type="checkbox"/> | Y |
| 3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any <i>increased (unexplained)</i> mortality at the site been included? | <input type="checkbox"/> | Y |
| 4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and <i>how</i> and <i>when</i> that will be notified to Scottish Ministers? | <input type="checkbox"/> | Y |
| 5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)? | <input type="checkbox"/> | Y |
| 6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)? | <input type="checkbox"/> | Y |
| 7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site? | <input type="checkbox"/> | Y |
| 8. Have the biosecurity procedures been adequately implemented on site? | <input type="checkbox"/> | Y |
| If no, detail: | | |

Results of Surveillance

| | | |
|---|--------------------------|---|
| 1. Has any animal health surveillance been carried out by, or on behalf of, the business? | <input type="checkbox"/> | Y |
| 2. If yes, are results available for inspection? | <input type="checkbox"/> | Y |
| 3. Any significant results? | <input type="checkbox"/> | N |
| If yes, detail (if not detailed under recent disease problems). | | |

Records checked between:

| | | | | | | |
|--|---|-----------------------------|--------|----------|-----------|---------------|
| Case Number: | 2018-0557 | Site No: | FS0462 | Insp: | | |
| Date of Visit | 08/11/2018 | No of movements/supp./dest. | | | Score | |
| Live fish movements | | 0 | 1-5 | 6-10 | >10 | |
| Movements on (from out with GB) of susceptible species | Frequency of movements on from equivalent MS | 0 | 5 | 10 | 14 | 0 |
| | Frequency of movements on from equivalent zone or compartment including third country | 0 | 9 | 18 | 26 | |
| | Number of suppliers | 0 | 5 | 10 | 14 | |
| Movements off | Frequency of movements off | 0 | 3 | 6 | 10 | 3 |
| | 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 | | | | |
| | 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 | | | | |
| | 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 Rank | | | | | 18 | MEDIUM |

Case No: **2018-0557**

Site No: **FS0462**

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 emamectin benzoate) as well as access to suitable biological and/or mechanical control measures, and can these be deployed in a reasonable period of time?
- 4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equivalent)?
- 5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6)
- 6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6)
- 7. Are sea lice (*L. salmonis*) record levels below the suggested criteria for treatment in the CoGP during the period that records are inspected? (CoGP Annex 6)
- 8. Have average adult female sea lice (*L. salmonis*) numbers per fish been at a level of 3 or above during the period that records are inspected?
- If yes, have these been reported to the Fish Health Inspectorate? If no, FHI see comment.
- 9. Is *C. elongatus* infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50)
- 10. Have therapeutic treatments been administered or other actions taken when *L. salmonis* levels have exceeded the suggested criteria for treatment or where *C. elongatus* is considered to have welfare implications? (CoGP 4.3.82, 5.3.51)
- 11. Has any other action been taken (where applicable)?
- 12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded?
- 13. Are treatments, where conducted, carried out in cooperation between participating farms?
- 14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for sea lice?
- 15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during the escalation of a sea lice infestation?
- 16. Do the sea lice levels observed on stocks reflect sea lice count data? If no please detail reasons.

Containment Inspection

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

ADD, top nets false bottoms

If other, detail below:

- 3. Have escape incidents or events been experienced on or in the vicinity of the site since the last FHI inspection?
- If Yes proceed with questions 4 – 9. If No skip to question 10
- 4. Have these been reported to Scottish Ministers?
- 5. Have these been reported to local DSFB forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 6. Have these been reported to the SSPO and local fisheries trusts forthwith (where they exist)? (CoGP – 4.4.37, 5.4.17)
- 7. Were methods (if any) used to recover escapees? If yes give detail
- 8. If gill nets were deployed was this action agreed with local wild fish interests and was permission given by Scottish Ministers? (Legal, CoGP – 4.4.38, 5.4.18)
- 9. What action was taken to prevent and minimise the risk of further escapes? (Not covered in code but could be considered under satisfactory measures of the Act)
- 10. Is the site inspected as satisfactory with regards to containment? If no, please detail reason(s)

Case No: 2018-0557

Site No: FS0462

Date of Visit: 08/11/2018

Inspector: [REDACTED]

Point of Compliance

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

If N, no further questions require completion.

Points of Compliance for Both Farm Management Agreements and Statements

2. Has a current farm management agreement or statement (FMAg/S) been prepared?

3. Is the current FMAg/S available for inspection?

4. Does the FMAg/S identify the relevant farm management area?

5. Does the FMAg/S identify the fish farm site(s) to which it applies?

6. Does the FMAg/S identify the date of commencement of the agreement or statement?

7. Does the FMAg/S identify the date of review?

Arrangements for Fish Health Management

8. Does the FMAg/S identify the minimum health standards for the stocks to be introduced to the area or farm?

9. Does the FMAg/S identify the vaccination requirements for stocks held in the area or farm?

10. Does the FMAg/S identify the species of fish which may be stocked into the area or farm?

11. Does the FMAg/S identify the maximum stocking density of any pen on any farm in the area or the individual farm?

12. Does the FMAg/S identify the arrangements for the storage and disposal of any dead fish from any fish farm in the area or the individual farm?

Arrangements for The Management of Sea Lice

13. Does the FMAg/S identify arrangements for the sharing of data on sea lice numbers and treatments?

14. Does the FMAg/S identify the availability and the use of medicines on farms covered by the agreement of statement?

15. Does the FMAg/S identify any requirements for the sensitivity testing of available treatments for sea lice on farms in the area or individual farms?

16. Does the FMAg/S identify the circumstances under which biological controls and cleaner fish are to be used on farms in the area or individual farms?

17. Does the FMAg/S identify the arrangements for synchronous treatments on farms within the area?

Live Fish Movements

18. Does the FMAg/S identify the circumstances when live fish may be introduced or removed from the area or farm?

19. Does the FMAg/S identify the arrangements for the movement of live fish on and off sites in the area or individual farms?

Harvesting

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

Fallowing

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

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

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

Point of Compliance for Farm Management Agreements Only

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

Management and operation

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

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

Case No: 2018-0557

Date of visit: 08/11/2018

Site No: FS0462

Inspector: [Redacted]

| Results Summary | Freq. | Date of Notification | | | | | | |
|-----------------|-------|----------------------|------|-------|------|---------|------|----------------------|
| | | Database | Insp | Phone | Insp | Writing | Insp | 2 nd Insp |
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| Report Summary | | | |
|----------------|------------|------------|----------------------|
| Case Type | Date | Insp | 2 nd Insp |
| ECI, CNI, SLI | 16/01/2018 | [Redacted] | [Redacted] |
| Case closed | 04/03/2019 | [Redacted] | [Redacted] |
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[REDACTED]
Kames Fish Farming Ltd
Kilmelford
Oban
Argyll
PA34 4XA
[REDACTED]

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|--------------------|------------|----------------------|------------------|
| BUSINESS No | FB0134 | DATE OF VISIT | 08/11/2018 |
| SITE No | FS0462 | SITE NAME | Kames Bay (east) |
| INSPECTOR | [REDACTED] | CASE No | 20180557 |

Case completion report

Recommendations in relation to the above case were made for implementation by 16^h February 2019. Following submission of the required documentation, evidence has now been provided to Marine Scotland to demonstrate that the recommendations have been implemented.

This case will now be closed. This site may be subject to further audit and recommendations in the future.

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

Signed:



Fish Health Inspector

Date: 04/03/2019

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

[REDACTED]
Kames Fish Farming Ltd
Kilmelford
Oban
Argyll
PA34 4XA
[REDACTED]

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|--------------------|------------|----------------------|------------------|
| BUSINESS No | FB0134 | DATE OF VISIT | 08/11/2018 |
| SITE No | FS0462 | SITE NAME | Kames Bay (east) |
| INSPECTOR | [REDACTED] | CASE No | 20180557 |

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009, and to meet the requirements of European Community Council Directive 2006/88/EC.

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 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:

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.

R25

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 containment and escapes.

A site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during the escalation of a sea lice infestation was not available for inspection.

The farm management agreement/statement available was for the previous cycle of fish. A statement for the current fish input was not available for inspection.

A copy of site specific lice management procedures and a current farm management agreement/statement must be submitted to the Fish Health Inspectorate for inspection by 16th February 2019.

Records or documentation demonstrating that these points have been addressed should be sent to the Fish Health Inspectorate (contact details below). The site may be subject to further inspection or enforcement action should the appropriate action regarding the above points not be taken within the time period stipulated.

Please contact myself or the duty inspector should you require any assistance or clarification in implementing any requirement or recommendation detailed in this report.

Signed:



Fish Health Inspector

Date: 16/01/2019

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

Case No: 2018-0592 Date of visit: 13/11/2018

Time spent on site: 2 hours Main Inspector:

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): 9.5 Thermometer No: T172 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:

RTR ova to arrive on Friday, all female

Movement record to be filled in and sent within 2 weeks.

Brown trout stripped each year for eggs. Eggs fertilised and placed in the hatchery on site.

Case No: **2018-0592** Site No: **FS0537**
 Date of Visit: **13/11/2018** Inspector(s): **[REDACTED]**

Registration/Authorisation Details

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

Site Details

| | | | | | |
|-------------------------|------------------|--------------------|------------------------|-------------------------|-----------|
| Total No facilities | 47 | Facilities stocked | 35 | No facilities inspected | 47 |
| Species | RTR | RTR | TRO | | |
| Age group | 2016-2017 | 2018 | 2014 | | |
| No Fish | 55,993 | 73,524 | 10 | | |
| Mean Fish Wt | 583g | 67g | 2kg | | |
| Next Fallow Date (Site) | No plans | | Next Input Date (Site) | Friday | |

Recent (last 4 wks) disease problems? **N** Any escapes (since last visit)? **N**
 If yes, detail: **[REDACTED]**

Movement Records

1. Movement records available for inspection? **Y**
 2. Date of last inspection: **21/11/2017**
 3. Are records complete and correctly entered? **N**
 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? **Whole fish - Dundas Chemicals**
 If other detail: **[REDACTED]**
 3. Mortality records complete and correctly entered? **Y**
 4. Recent mortality (last 4 wks): **230 due to background mortality**
 5. Evidence of recent increased/atypical mortalities? **N**
 If yes, facility nos/no mortality per facility/no stock per facility/reason: **[REDACTED]**

6. Any other peaks in mortality during period checked? **N**
 If yes, detail: **[REDACTED]**
 7. Have increased (unexplained) mortalities been reported to vet or FHI? **N/A**
 If yes, detail action: **[REDACTED]**
 8. Have 'mortality events' been reported to FHI? If no, add MRT case and enter on mortality events sheet. **N/A**

| | | |
|--|-------------------------------------|---|
| 1. Recent treatments (last 4 wks)? | <input type="checkbox"/> | Y |
| If yes, detail: | Chloramine T, Florfenicol, Formalin | |
| If other, detail: | | |
| 2. Medicines records available for inspection? | <input type="checkbox"/> | Y |
| 3. Are records complete and correctly entered? | <input type="checkbox"/> | Y |
| 4. Are fish in a withdrawal period? | <input type="checkbox"/> | Y |
| 5. If yes, what treatment(s)? | Florfenicol | |
| If other, detail: | | |
| 6. Are medicines stored appropriately? | <input type="checkbox"/> | Y |

Biosecurity Records

| | | |
|--|--------------------------|---|
| 1. Biosecurity records available for inspection? | <input type="checkbox"/> | Y |
| 2. Has the manner and frequency of mortality removal, recording and safe disposal been considered? | <input type="checkbox"/> | Y |
| 3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any <i>increased (unexplained)</i> mortality at the site been included? | <input type="checkbox"/> | Y |
| 4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and <i>how</i> and <i>when</i> that will be notified to Scottish Ministers? | <input type="checkbox"/> | Y |
| 5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)? | <input type="checkbox"/> | Y |
| 6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)? | <input type="checkbox"/> | Y |
| 7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site? | <input type="checkbox"/> | Y |
| 8. Have the biosecurity procedures been adequately implemented on site? | <input type="checkbox"/> | Y |
| If no, detail: | | |

Results of Surveillance

| | | |
|---|--------------------------|-----|
| 1. Has any animal health surveillance been carried out by, or on behalf of, the business? | <input type="checkbox"/> | N |
| 2. If yes, are results available for inspection? | <input type="checkbox"/> | N/A |
| 3. Any significant results? | <input type="checkbox"/> | N/A |
| If yes, detail (if not detailed under recent disease problems). | | |

Records checked between:

| | | | | | |
|--|---|-----------------------------|--------|----------|--------------------------|
| Case Number: | 2018-0592 | Site No: | FS0537 | Insp: | |
| Date of Visit | 13/11/2018 | 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 |
| | Number of suppliers | 0 | 5 | 10 | 14 |
| Movements off | Frequency of movements off | 0 | 3 | 6 | 10 |
| | Number of destinations | 0 | 3 | 6 | 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 | | | 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 | | | 0 |
| | Common processes with other farms | 3 | | | |
| | Collection point for waste from other farms | 5 | | | |
| Use of unpasteurised feeds | No feeding of unpasteurised feed | 0 | | | 0 |
| | Feeding unpasteurised feed | 5 | | | |
| Biosecurity | Number of sites | 1 | 2 or 3 | ≥ 4 | |
| Contacts with other sites | Sites operating from single shorebase | 0 | 1 | 2 | 0 |
| | Sites sharing staff and equipment | 0 | 1 | 2 | 0 |
| Disinfection of equipment between sites, use of footbaths etc | Yes | 0 | | | 0 |
| | No | 1 | | | |
| CoGP/Regulator | | | | | |
| Practices in accordance with regulator or industry code of practice | Yes | 0 | | | |
| | No | 3 | | | 3 |
| Platform access to cages | Yes | 0 | | | 0 |
| | No | 2 | | | |
| Total Rank | | | | | 38 HIGH |

Case No: **2018-0592**

Site No: **FS0537**

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 emamectin benzoate) as well as access to suitable biological and/or mechanical control measures, and can these be deployed in a reasonable period of time?
4. Is there a signed documented farm management agreement or statement relevant to the site and CoGP Farm Management Area (or equivalent)?
5. Are sea lice count records available for inspection? (Legal SSI, CoGP Annex 6)
6. Do records adequately reflect the required standard specified in the SSI and the CoGP? (Legal SSI, CoGP Annex 6)
7. Are sea lice (*L. salmonis*) record levels below the suggested criteria for treatment in the CoGP during the period that records are inspected? (CoGP Annex 6)
8. Have average adult female sea lice (*L. salmonis*) numbers per fish been at a level of 3 or above during the period that records are inspected?
If yes, have these been reported to the Fish Health Inspectorate? If no, FHI see comment.
9. Is *C. elongatus* infestation at a level which is considered to cause significant welfare problems? (CoGP 4.3.81, 5.3.50)
10. Have therapeutic treatments been administered or other actions taken when *L. salmonis* levels have exceeded the suggested criteria for treatment or where *C. elongatus* is considered to have welfare implications? (CoGP 4.3.82, 5.3.51)
11. Has any other action been taken (where applicable)?
12. Have therapeutic treatments or the actions taken had a significant impact upon the lice levels recorded?
13. Are treatments, where conducted, carried out in cooperation between participating farms?
14. Is there a harvesting strategy for the site, where fewer populations or part populations are held without treatment for sea lice?
15. Is there a site specific written lice management procedure with waypoints describing set actions to deal with recognised scenarios during the escalation of a sea lice infestation?
16. Do the sea lice levels observed on stocks reflect sea lice count data? If no please detail reasons.

Containment Inspection

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

Strings over the site to deter piscivorous bird, electric fences (to deter otters and mink), rat and mink traps on site, metal cr

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

██████████
Invicta Trout Ltd
Newtonairds
Dumfries
Dumfries and Galloway
DG2 0JL
████████████████████

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|--------------------|------------|----------------------|---------------|
| BUSINESS No | FB0007 | DATE OF VISIT | 14/11/2018 |
| SITE No | FS0537 | SITE NAME | Invicta Trout |
| INSPECTOR | Andy Mayes | CASE No | 20180592 |

Inspection under the Aquatic Animal Health (Scotland) Regulations 2009

The above site was inspected, in accordance with the Aquatic Animal Health (Scotland) Regulations 2009, and to meet the requirements of European Community Council Directive 2006/88/EC.

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:

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 animal health surveillance had been carried out on behalf of the business and/or Marine Scotland since the last Marine Scotland Inspection.

R04

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

Medicine records were inspected and found to be adequately maintained.

Aquaculture animal and aquaculture animal product movement records were not available for inspection.

The following points were raised with the site representative during the inspection:

In accordance with regulation 6(2)(a)(i) of the 2009 Regulations, the operator of the APB must maintain, and make available for inspection upon request by an inspector, a record of the movement of any aquaculture animal or any aquaculture animal product into or out of every farm site operated by the APB. The record must be updated within 24 hours of any aquaculture animal or aquaculture animal product movement, and the record must be retained for a period of four years from the date of the movement.

Although a records of aquaculture animals was available for inspection, it did not contain the information below:

- a) Whether the movement is on or off site;
- b) The species of aquaculture animal moved,
- c) The stage of development that the aquaculture animal or physical state that the product was in at the time of transfer-
 - In the case of fish other than Atlantic salmon the development stage should be classed as either ova; LVG (fish weighing less than 5 grams); MVG (fish weighing more than 5 grams); dead (for harvest) or waste;
- d) The name of the source of fish or products moved on to the site or the name of the destination of fish or products moved off of the site. This should include company name, site name and registered site number, e.g. to Scottish Smolt, Glen Bay (FS2100) or from Scottish Smolt, Loch Mutch (FS2000);
- e) Name of the carrier(s);
- f) Method of transport, including registered name of vessel and/or registration of vehicle used;
- g) A record of whether the movement involved the collection of aquaculture animals or aquaculture animal products from multiple source sites or whether the movement involved the delivery of aquaculture animals or aquaculture animal products to multiple destination sites. This should include the details of the multiple source sites or destination sites involved in the movement; and
- h) A record of whether the movement involved the exchange of water whilst the vehicle or vessel used for transport was present on the farm site. This should include details of the source(s) of water exchanged and any treatment carried out on the water prior to discharge.

R04

The movement book supplied by Marine Scotland maybe used to records the information above, or it may be recorded in another format.

These must be addressed to ensure the conditions of authorisation for your Aquaculture Production Business (APB) are being met. Records or documentation demonstrating that these points have been addressed should be sent to the Fish Health Inspectorate (contact details below) within 30 days of the date this report was issued.

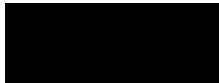
Inspection under the Aquaculture and Fisheries (Scotland) Act 2007

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 assistance or clarification in implementing any requirement or recommendation detailed in this report.

Signed:



Date: 23/11/2018

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

██████████
Invicta Trout Ltd
Newtonairds
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██████████

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|--------------------|------------|----------------------|---------------|
| BUSINESS No | FB0007 | DATE OF VISIT | 14/11/2018 |
| SITE No | FS0537 | SITE NAME | Invicta Trout |
| INSPECTOR | ██████████ | CASE No | 20180592 |

Case completion report

Recommendations in relation to the above case were made for implementation by 11/02/19. Following submission of the required documentation, evidence has now been provided to Marine Scotland to demonstrate that the recommendations have been implemented.

This case will now be closed. This site may be subject to further audit and recommendations in the future.

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

Signed: ██████████

Fish Health Inspector

Date: 21/02/2019

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

| | | | | | | |
|---|--------------------------|--|-------------------------------|-------------------|---------|------|
| Case No: | 2018-0642 | Date of visit: | 27/11/2018 | | | |
| Time spent on site: | 5 hrs | Main Inspector: | | | | |
| Site No: | FS0237 | Site Name: | Gorsten | | | |
| Business No: | FB0119 | Business Name: | Marine Harvest (Scotland) Ltd | | | |
| Case Types: | 1 REP | 2 DIA | 3 | 4 | 5 | 6 |
| Water Temp (°C): | 11.4 | Thermometer No: | T148 | FHI 045 completed | | |
| Observations: | Region: | HI | Water type: | S | CoGP MA | M-33 |
| Dead/weak/abnormally behaving fish present? | <input type="checkbox"/> | If yes, see additional information/clinical score sheet. | | | | |
| Clinical signs of disease observed? | <input type="checkbox"/> | If yes, see additional information/clinical score sheet. | | | | |
| Gross pathology observed? | <input type="checkbox"/> | If yes, see additional information/clinical score sheet. | | | | |
| Diagnostic samples taken? | <input type="checkbox"/> | | | | | |

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

| |
|--|
| |
|--|

Additional Case Information:

Site inspected after report of increased mortality due to *Pasturella skyensis*. CMS found on site by PCR on 29/10/18 but company vet not seeing signs.

Fish showing physical damage due to the larger pens and not helped by a strong tidal current. Company putting a buffer system in place which will consist of 2 x 80m wide nets to the north side of the site.

Seals and otters also causing damage. A new acoustic system has recently been installed and is starting to make a difference. No sea lice visible on the fish sampled. All 12 pens have wrasse (locally wild caught) while 2 pens also have farmed lumpsuckers.

Lumpsuckers treated with Florocal (21/11/18) so all fish in withdrawal period for 150 degree days.

Increase in mortalities noticed on site at the end of September. Main cause of increase has been put down to *Pasturella skyensis* and physical damage

Pens 1 - 10 holding 2018 Q1 SAL. Mortalities varying with a between 4,005 in pen 1 over last 4 weeks to 895 in pen 3. Pen 1 worst affected, pens 2, 6 & 10 also highly affected. Pens 5, 7 & 8 avg. mortality of 1,625 over last 4 weeks. Remaining pens averaging 994 over last 4 weeks.

Pens 11 & 12 holding 2017 Q4 SAL and mortalities have remained low over the last 4 weeks with an average of 214/week. Total on site mortality percentage has not been above reporting threshold and numbers have stabilised.

Company has decided to increase mort removal to twice/day, divers also in twice/week to combat problem. Morts usually incinerated on site but increase has led to a skip being placed at the shore base and then taken to Dundas Chemicals.

Case No: **2018-0642** Site No: **FS0237**
 Date of Visit: **27/11/2018** Inspector(s): **-**

Registration/Authorisation Details

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

Site Details

| | | | | | | | | |
|-------------------------|------------|---------|--------------------|------------------------|-----------|-------------------------|----|--|
| Total No facilities | 12 | | Facilities stocked | 12 | | No facilities inspected | 12 | |
| Species | SAL | SAL | WRS | LUM | | | | |
| Age group | 2017 Q4 | 2018 Q1 | MIX | MIX | | | | |
| No Fish | 93,000 | 678,000 | 33,200 | 4,200 | | | | |
| Mean Fish Wt | 3 Kg | 2 Kg | N/A | N/A | | | | |
| Next Fallow Date (Site) | Sept. 2019 | | | Next Input Date (Site) | Dec. 2019 | | | |

Recent (last 4 wks) disease problems? Y Any escapes (since last visit)? N
 If yes, detail: **Pasturella skyensis confirmed on site by PCR.**

Movement Records

- 1. Movement records available for inspection? Y
- 2. Date of last inspection: **18/09/2017**
- 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)?
- 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? **Whole fish - Dundas Chemicals**
- If other detail:
- 3. Mortality records complete and correctly entered? Y
- 4. Recent mortality (last 4 wks): **21,169 (2.75%) for whole site for last 4 weeks**
- 5. Evidence of recent increased/atypical mortalities? Y
- If yes, facility nos/no mortality per facility/no stock per facility/reason:
Pens 1 (4005), 2 (2796), 6 (2834) & 10 (2820)
- 6. Any other peaks in mortality during period checked? N
- If yes, detail:
- 7. Have increased (unexplained) mortalities been reported to vet or FHI? Y
- If yes, detail action: **Increased rate of mort removal.**
- 8. Have 'mortality events' been reported to FHI? If no, add MRT case and enter on mortality events sheet. Y

| | | |
|--|--------------------------|---|
| 1. Recent treatments (last 4 wks)? | <input type="checkbox"/> | Y |
| If yes, detail: | Florfenicol | |
| If other, detail: | | |
| 2. Medicines records available for inspection? | <input type="checkbox"/> | Y |
| 3. Are records complete and correctly entered? | <input type="checkbox"/> | Y |
| 4. Are fish in a withdrawal period? | <input type="checkbox"/> | Y |
| 5. If yes, what treatment(s)? | Florfenicol | |
| If other, detail: | | |
| 6. Are medicines stored appropriately? | <input type="checkbox"/> | Y |

Biosecurity Records

| | |
|--|--------------------------|
| 1. Biosecurity records available for inspection? | <input type="checkbox"/> |
| 2. Has the manner and frequency of mortality removal, recording and safe disposal been considered? | <input type="checkbox"/> |
| 3. Has the manner and period in which the APB will notify Scottish Ministers or veterinary professional of any <i>increased (unexplained)</i> mortality at the site been included? | <input type="checkbox"/> |
| 4. Has the action that will be taken in the event that the presence or suspicion of the presence of a listed disease is detected been included and <i>how</i> and <i>when</i> that will be notified to Scottish Ministers? | <input type="checkbox"/> |
| 5. Has the health status of aquaculture animals being stocked on the farm site been covered (equal or higher health status, certification if required)? | <input type="checkbox"/> |
| 6. Have the husbandry and biosecurity measures implemented between each epidemiological unit to minimise transmission of disease been covered (movement of staff, visitors, equipment, live or dead fish etc.)? | <input type="checkbox"/> |
| 7. Is documentation available regarding the measures in place to maintain the physical containment of aquaculture animals held on site? | <input type="checkbox"/> |
| 8. Have the biosecurity procedures been adequately implemented on site? | <input type="checkbox"/> |
| If no, detail: | |

Results of Surveillance

| | | |
|---|---|---|
| 1. Has any animal health surveillance been carried out by, or on behalf of, the business? | <input type="checkbox"/> | Y |
| 2. If yes, are results available for inspection? | <input type="checkbox"/> | Y |
| 3. Any significant results? | <input type="checkbox"/> | Y |
| If yes, detail (if not detailed under recent disease problems). | External signs lethargy, pale gills, exophthalmia | |
| Internal signs of asites, haemorrhage on swim bladder and spleens slightly swollen. | | |

Records checked between: 18/09/2017 - 27/11/2018

Case no: Site No: Date of visit/
Sampling:

Priority samples: VI BA PA MG HI

Time sampling starts/ends: Inspector: VMD No.

Environmental conditions: 1 2 3 4 5

Summary samples HIST BA MG VI PA Total Samples

Add Fish/Pools - click

| Pool/Fish No | F1 | F2 | F3 | F4 | F5 | P1 | | | | | | |
|----------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|--|--|--|--|--|
| Fish nos | 1 | 2 | 3 | 4 | 5 | 1-5 | | | | | | |
| Pool Group | P1 | P1 | P1 | P1 | P1 | | | | | | | |
| Species | SAL | SAL | SAL | SAL | SAL | SAL | | | | | | |
| Average weight | 2Kg | 2Kg | 2Kg | 2Kg | 2Kg | | | | | | | |
| Sex | N/A | N/A | N/A | N/A | N/A | N/A | | | | | | |
| Water Type | SW | SW | SW | SW | SW | SW | | | | | | |
| Stock Details | | Loch Arkaig | Loch Arkaig | Loch Arkaig | Loch Arkaig | Loch Arkaig | Loch Arkaig | | | | | |
| | Stock Origin | | | | | | | | | | | |
| Facility No | 1 | 1 | 3 | 6 | 8 | | | | | | | |

Case no: 2018-0642

Site No: FS0237

Method of killing: Percussive

Date of visit: 27/11/2018

Inspector(s):

Sheet Relevant: Y

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

| Fish Number | | 1 | 2 | 3 | 4 | 5 | | | | |
|--|-----------------------|----|----|----|----|----|--|--|--|--|
| Time sampled after death (if > 45 minutes) | | 90 | 90 | 90 | 90 | 90 | | | | |
| External Signs | | | | | | | | | | |
| Behaviour | Moribund | | | | | | | | | |
| | Lethargic | M | M | S | M | W | | | | |
| | Hanging vertical | | | | | | | | | |
| | Spiralling | | | S | | | | | | |
| | Flashing | | | | | | | | | |
| | Loss of equilibrium | | | S | | | | | | |
| Body | Dark | | | | | | | | | |
| | Distended abdomen | | | | | | | | | |
| | Anorexic | | | | | | | | | |
| | Scale Oedema | | | | | | | | | |
| Opercula | Shortened | | | | | | | | | |
| | Flared | | | | | | | | | |
| Haemorrhaging | Throat | | | | | | | | | |
| | Ventrum | | | | | | | | | |
| | Base of fins | | | | | | | | | |
| | Elsewhere | W | | | W | | | | | |
| 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 | | W | | M | | | | | |
| | Granulomas | | | | | | | | | |
| | Deformed | | | | | | | | | |
| Liver | Petechial haem | M | M | M | | | | | | |
| | Gross haem | | | | | | | | | |
| | Tissue breakdown | | | | | | | | | |
| | Enlarged | | | | | | | | | |
| | Colour number(s) | 2 | 2 | 3 | | | | | | |
| | Granulomas | | | | | | | | | |
| | Lesions | | | | | | | | | |
| Pyloric caeca | Petechial haem | M | M | | | | | | | |
| | 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 | M | M | M | M | | | | | |
| | Fluid filled | | | | | | | | | |
| Kidney | Swollen | | | | | | | | | |
| | Grey | | | | | | | | | |
| | Granular | | | | | | | | | |
| | Liquefied | | | | | | | | | |
| General | Parasites present | | | | | | | | | |
| | Anaemia | | | | | | | | | |

Additional comments:

F1, 2 & 4 had clear fluid in the heart cavity. F3 was on its side swimming in circles at the surface of the water.

Site No: FS0237

Case No: 2018-0642

Nature of non-compliance:

Action taken (FHI):

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

██████████
Mowi Scotland Ltd
Stob Ban House
Glen Nevis Business Park
Fort William
PH33 6RX
██████████

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

| | | | |
|--------------------|------------|----------------------|------------|
| BUSINESS No | FB0119 | DATE OF VISIT | 27/11/2018 |
| SITE No | FS0237 | SITE NAME | Gorsten |
| INSPECTOR | ██████████ | CASE No | 20180642 |

Section 1: Summary

The above site was inspected following a report from Mowi Scotland (formerly known as Marine Harvest) of a recent increase in mortalities. On inspection of the site, a small number of fish appeared lethargic. Five lethargic fish were removed for examination and subsequent diagnostic sampling.

Histopathology examination revealed mild systemic granulomatous inflammation with features resembling *Pasteurella skyensis*-like infection. This was confirmed by the isolation of *Pasteurella skyensis* in bacteriology. Mild multifocal hepatic necrosis, splenic necrosis and peritonitis likely associated with vaccine administration were also noted.

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 stocked with 93,000 2017 Q4 and 6778,000 2018 Q1 Atlantic salmon with an average weight of 3 and 2 kg respectively. The mortality rate increased in late October but had not been above reporting threshold and has since stabilised. *Pasteurella skyensis* had been confirmed on site by PCR prior to inspection. Only the 2018 Q1 stock appear to have been affected, mortality levels in the 2017 Q4 stock remained low throughout.

During the inspection a number of lethargic Atlantic salmon were observed. Five lethargic fish were removed from the pens for further examination and subsequent diagnostic sampling.

R09

Internally the hearts of fish 2 and 4 were pale/anaemic. Petechial haemorrhaging was evident on the livers of fish 1,2 and 3 as well as on the pyloric caeca of fish 1 and 2. Haemorrhaging was also evident on the swim bladder of fish 1, 2, 3 and 4. Fluid was also present in the heart cavity of fish 1, 2 and 4.

Samples

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

| Fish number | Pool number | Facility number | Species | Stage | Origin |
|-------------|-------------|-----------------|-----------------|---------------|-------------|
| 1 & 2 | 1 | 1 | Atlantic salmon | 2 kg/ 2018 Q1 | Loch Arkaig |
| 3 | 1 | 3 | Atlantic salmon | 2 kg/ 2018 Q1 | Loch Arkaig |
| 4 | 1 | 6 | Atlantic salmon | 2 kg/ 2018 Q1 | Loch Arkaig |
| 5 | 1 | 8 | Atlantic salmon | 2 kg/ 2018 Q1 | Loch Arkaig |

Results

Bacteriology: Kidney and gill material from fish one to five were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria were isolated:

- *Vibrio* sp. (kidney: 3/5 fish; gill: 5/5 fish)
- *Pasteurella skyensis* (kidney: 2/5 fish)

The level and purity of growth of the isolated *Vibrio* sp. would not suggest the bacterium was a primary cause of morbidity.

DNA from the *Pasteurella skyensis*-like colony was extracted and sequenced. The results showed the isolate to have a 99% similarity to *Pasteurella skyensis* strains 98B1 and 01A1.

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

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

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

Histopathological examination revealed the following:

Gill: Mild interlamellar hyperplasia noted mainly at the tip of the gill filament (F4) and one granuloma-like structure at the centre of the gill filament noted in F5. Few scattered aneurysmal dilation/telangiectasia noted in all fish. Generalized epithelial lifting likely associated with post-mortem artefact.

R09

Skin & Muscle: Occasional degeneration of white fibres were noted in F3 & F4 and also noted in F4 some fibrosis among the muscle bundle.

Heart: Mild multifocal cell infiltration and small foci of fibre degeneration (F1 & F2) at the spongy layer of ventricle. F4 also showed foci of fibre degeneration and mild leucocyte cell infiltration on the compact layer. Mild to marked pericarditis with deposits of amorphous eosinophilic material resembling fibrin and leucocyte infiltration also noted (F1, F2 & F4).

Gut and pyloric caeca: Some fold congestion in the hindgut and mild haemorrhage noted in abdominal adipose tissue of (F1). Some fibrous adhesions (likely associated with vaccine administration) (F1 - F5), being more marked in F5 which showed granuloma-like structures with giant cells present.

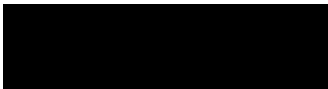
Pancreas: Within normal range.

Liver: Moderate multifocal hepatocyte necrosis (F1 & F2), mild diffuse hepatocyte vacuolation (F2), mild multifocal hepatic fibrosis (F4) and thickness of hepatic serosa with deposits of amorphous eosinophilic material resembling fibrin (F1 - F4). F5 showed a granuloma-like structure with associated giant cells.

Kidney: Several granuloma-like structure with associated giant cells and centrally splendore-hoepli material (homogeneous eosinophilic material) (F5).

Spleen: Diffuse necrosis of white pulp and small granuloma-like structure noted in F1. F5 showed several granuloma-like structures with associated giant cells. The structures showed centrally splendore-hoepli material (homogeneous eosinophilic material). Thickness of splenic serosa also noted and F2 spleen was slightly congested.

Signed:



Fish Health Inspector

Date: 11/03/2019

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



Figure 1 - Fish 1



Figure 2 - Fish 1



Figure 3 - Fish 1



Figure 4 - Fish 2



Figure 5 - Fish 2



Figure 6 - Fish 2



Figure 7 - Fish 2



Figure 8 - Fish 2



Figure 9 - Fish 3



Figure 10 - Fish 3



Figure 11 - Fish 4



Figure 12 - Fish 4



Figure 13 - Fish 4



Figure 14 - Fish 4



Figure 15 - Fish 4



Figure 16 - Fish 5



Figure 17 - Fish 5



Figure 18 - Fish 5