

Case No:	<input type="text" value="2019-0135"/>	Date of visit:	<input type="text" value="28/03/2019"/>			
Time spent on site:	<input type="text" value="5hrs"/>	Main Inspector:	<input type="text" value=""/>			
Site No:	<input type="text" value="FS0515"/>	Site Name:	<input type="text" value="North Papa"/>			
Business No:	<input type="text" value="FB0440"/>	Business Name:	<input type="text" value="Grieg Seafood Shetland Ltd"/>			
Case Types:	1 <input type="text" value="ECI"/>	2 <input type="text" value="CNI"/>	3 <input type="text" value="SLI"/>	4 <input type="text" value="VMD"/>	5 <input type="text" value="DIA"/>	6 <input type="text" value=""/>
Water Temp (°C):	<input type="text" value="7.1"/>	Thermometer No:	<input type="text" value="T152"/>	FHI 045 completed	<input type="text" value="N"/>	
Observations:	Region:	SH	Water type:	S	CoGP MA	S-11
Dead/weak/abnormally behaving fish present?	<input type="text" value="Y"/>	If yes, see additional information/clinical score sheet.				
Clinical signs of disease observed?	<input type="text" value="Y"/>	If yes, see additional information/clinical score sheet.				
Gross pathology observed?	<input type="text" value="Y"/>	If yes, see additional information/clinical score sheet.				
Diagnostic samples taken?	<input type="text" value="Y"/>					

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

**Additional Case Information:**

Optilicer brought in first week of February and first week of March to reduce sea lice numbers across site. Freshwater treatments have also been done, for next freshwater treatment the Ronja Superior will be used that has a larger well capacity allowing higher tonnages to be done each day. Operator has reduced the use of medicinal sea lice treatments in favour of mechanical and FW. Also authorised to hold lumpsuckers.

Lice skirts also used on all stocked cages.

Approximately 10 moribund fish observed across site with signs of physical damage (attributed to a recent optilicer treatment). 3 fish taken for diagnostic sample. Good visibility in cages at time of inspection (~4m).

Fish taken for VMD appeared healthy and feeding well.

Inspection, paperwork, F3 diagnostic and all VMD sampling completed by [REDACTED] under [REDACTED] supervision. F1 and F2 diagnostic completed by [REDACTED]

Case No: **2019-0135** Site No: **FS0515**  
 Date of Visit: **28/03/2019** 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	<b>10</b>	Facilities stocked	<b>4</b>	No facilities inspected	<b>10</b>
Species	<b>SAL</b>				
Age group	<b>2018 S1</b>				
No Fish	<b>167,310</b>				
Mean Fish Wt	<b>3.19kg</b>				
Next Fallow Date (Site)	<b>October 2019</b>	Next Input Date (Site)	<b>January 2020</b>		

Recent (last 4 wks) disease problems? **Y** Any escapes (since last visit)? **N**  
 If yes, detail: **Winter sores, sampling by FVG, antibiotics prescribed, awaiting arrival to treat.**

**Movement Records**

1. Movement records available for inspection? **Y**  
 2. Date of last inspection: **16/10/2018**  
 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 - TWMA (Shetland)**  
 If other detail: **[Redacted]**  
 3. Mortality records complete and correctly entered? **Y**  
 4. Recent mortality (last 4 wks): **w/b 18/03/19 (1,031, 0.61%), w/b 11/03/19 (801, 0.48%), w/b 04/03/19 (1,437, 0.85%), w/b 25/02/19 (965, 0.57%), w/b 18/02/19 (697, 0.41%) - attributed to optilicer treatment.**  
 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. **Y**

1. Recent treatments (last 4 wks)?	<input type="checkbox"/>	Y
If yes, detail:	T.M.S.	
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)?	T.M.S.	
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"/>	Y
If yes, detail (if not detailed under recent disease problems).	Winter sores, not causing high losses at present	

Records checked between: 16/10/18-28/03/19

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

Priority samples: VI  BA  PA  MG  HI

Time sampling starts/ends:   Inspector:  VMD No.

Environmental conditions: 1  2  3  4  5

Summary samples HIST  BA  MG  VI  PA  Total Samples

**Add Fish/Pools - click**

Pool/Fish No	F1	F2	F3	P1									
Fish nos	1	2	3	1-3	4	5							
Pool Group	P1	P1	P1										
Species	SAL	SAL	SAL	SAL	SAL	SAL							
Average weight	3.2kg	3.2kg	3.2kg	3.2kg	3.2kg	3.2kg							
Sex													
Water Type	SW	SW	SW	SW	SW	SW							
Stock Details		Loch Damph	Loch Damph	Loch Damph	Loch Damph	Girlista Hatchery	Loch Damph						
	Stock Origin												
Facility No	8	8	8	8	1	9							



Case no: 2019-0135

Site No: FS0515

Method of killing: Percussive

Date of visit: 28/03/2019

Inspector(s):

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





Additional comments:

Case Number:	2019-0135	Site No:	FS0515	Insp:		
Date of Visit	28/03/2019	No of movements/supp./dest.			Score	
<b>Live fish movements</b>		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	0
Movements off	Frequency of movements off	0	3	6	10	10
	Number of destinations	0	3	6	10	3
<b>Exposure via water</b>	<b>Site contacts</b>	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		
<b>Management practices</b>		None	Secure	Unsecure		
Water contacts with processors	Any processing plant discharging into adjacent waters	0	1	2		1
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				3
	Collection point for waste from other farms	5				
Use of unpasteurised feeds	No feeding of unpasteurised feed	0				0
	Feeding unpasteurised feed	5				
<b>Biosecurity</b>	<b>Number of sites</b>	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				
<b>CoGP/Regulator</b>						
Practices in accordance with regulator or industry code of practice	Yes	0				0
	No	3				3
Platform access to cages	Yes	0				0
	No	2				
<b>Total Rank</b>					<b>27</b>	<b>HIGH</b>

Case No: **2019-0135**

Site No: **FS0515**

**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)

Predator nets, tension nets, top nets, MML

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: 2019-0135

Site No: FS0515

Date of Visit: 28/03/2019

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?

Site No: FS0515
Case No: 2019-0135
Nature of non-compliance:
Action taken (FHI):
Non-compliance relevant to (delete): VirologyMolGen/Bacteriology/Histology/Parasitology







[REDACTED]  
Grieg Seafood Shetland Ltd  
Gremista  
Lerwick  
Shetland  
ZE1 OPX  
[REDACTED]

## AMENDED FISH HEALTH INSPECTORATE VISIT REPORT

### SUMMARY FOR INFORMATION OF SITE OPERATOR

<b>BUSINESS No</b>	FB0440	<b>DATE OF VISIT</b>	28/03/2019
<b>SITE No</b>	FS0515	<b>SITE NAME</b>	North Papa
<b>INSPECTOR</b>	[REDACTED]	<b>CASE No</b>	20190135

### Section 1: Summary

This report replaces the fish health report R09 issued on 09/04/2019 by Nicole Little. The previous report should be discarded. The report issued on 09/04/2019 contained a positive result for *Paranucleospora theridion* attributed to F3 rather than F2.

During a routine inspection of the above site, a number of moribund and lethargic Atlantic salmon were observed. Three lethargic fish were removed for further examination and subsequent diagnostic sampling.

Histopathology examination revealed a systemic bacterial infection likely associated with *Aeromonas* sp. in one fish, confirmed by a positive bacteriology result, where the level and purity of *Aeromonas* sp. was significant in that fish.

Pooled real-time PCR (QPCR) results were positive for infectious pancreatic necrosis virus (IPNV).

Samples tested by QPCR were positive for *Paranucleospora theridion* (syn, *Desmozoon lepeophtherii*).

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

R09



## Section 2: Case Detail

### Observations

During a routine inspection of the North Papa site, a number of moribund and lethargic Atlantic salmon were observed in a number of pens. Three lethargic fish were removed for further examination and subsequent diagnostic sampling. No significant mortalities had been reported since the last inspection, with 1,031 mortalities (0.61%) recorded for the week prior to the site inspection.

Externally, ventral haemorrhaging was observed in all three fish, with F1 and F2 displaying bilateral exophthalmia. The gills of F2 were zoned, while F1 and F3 were pale in colour.

Internally, bloody ascites were observed in F1 and F3, with F3 also displaying gross haemorrhaging in the liver and petechial haemorrhaging in the pyloric caeca. The spleen was enlarged in F1 and F2, with F1 displaying yellow pseudo-faeces. The gut of F3 was empty.

### Samples

Samples were collected from 3 fish according to the table below:

Fish number	Pool number	Facility number	Species	Stage	Origin
F1-3	P1	8	Atlantic Salmon	~ 3.2KG / 2018 S1	Loch Damph

### Results

**Bacteriology:** Kidney and gill material from F1-3 were inoculated onto appropriate media for the isolation of bacteria.

The following bacteria were isolated from fish F3:

- *Aeromonas salmonicida* (Kidney and Gill)

From the tests conducted, we do not have evidence of resistance to amoxicillin, 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)

Pool Number	Endogenous control Cp value	Cp Values			Reported Result (PCR)
P1	21.29	33.89	33.84	34.14	POSITIVE

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

R09

## 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)
F2	22.82	38.50	>40	37.11	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 3 fish. The tissue samples were fixed in 10% neutral buffered formalin.

Histopathological examination revealed the following:

Gill: Multifocal presence of bacterial aggregates that stained Gram negative and congestion of the surrounded capillaries noted in F3. Scattered lamellar epithelial hyperplasia, some lamellar clubbing and irregular lamellar epithelial surface noted in all fish. Some free blood among gill filaments noted in F1 (likely associated with the method of dispatch).

Skin and Muscle: Occasional white red skeletal fibre degeneration (F1) and small foci of red skeletal muscle haemorrhage (F3).

Heart: Several bacterial aggregates that stained Gram negative in spongy myocardium and also noted in the pericardium close to the bulbus (F3).

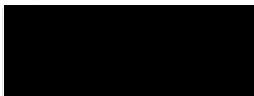
Gut and pyloric caeca: Within normal range.

Pancreas: Within normal range.

Liver: One bacterial aggregate colonizing a hepatic vessel, foci of thickness of hepatic serosa with bacterial aggregates associated with some scattered apoptotic cells noted in F3. The bacteria colony stained Gram negative. Mild to moderate diffuse hepatocyte vacuolation noted in F1 and F2.

Kidney: F3 showed two distinct round shaped areas with associated rod-shaped Gram negative bacteria (only head kidney).

Spleen: Within normal range.



Signed:

Date: 17/10/2019

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](http://www.gov.scot/Topics/marine/Fish-Shellfish/FHI/charter)

R09



2019-0135 – North Papa Fish 1-3





2019-0135 Fish 1 Bilateral Exophthalmia



2019-0135 North Papa – Fish 2 exophthalmia





2019-0135 North Papa – Fish 1 Gills



2019-0135 North Papa Fish 2 Gills



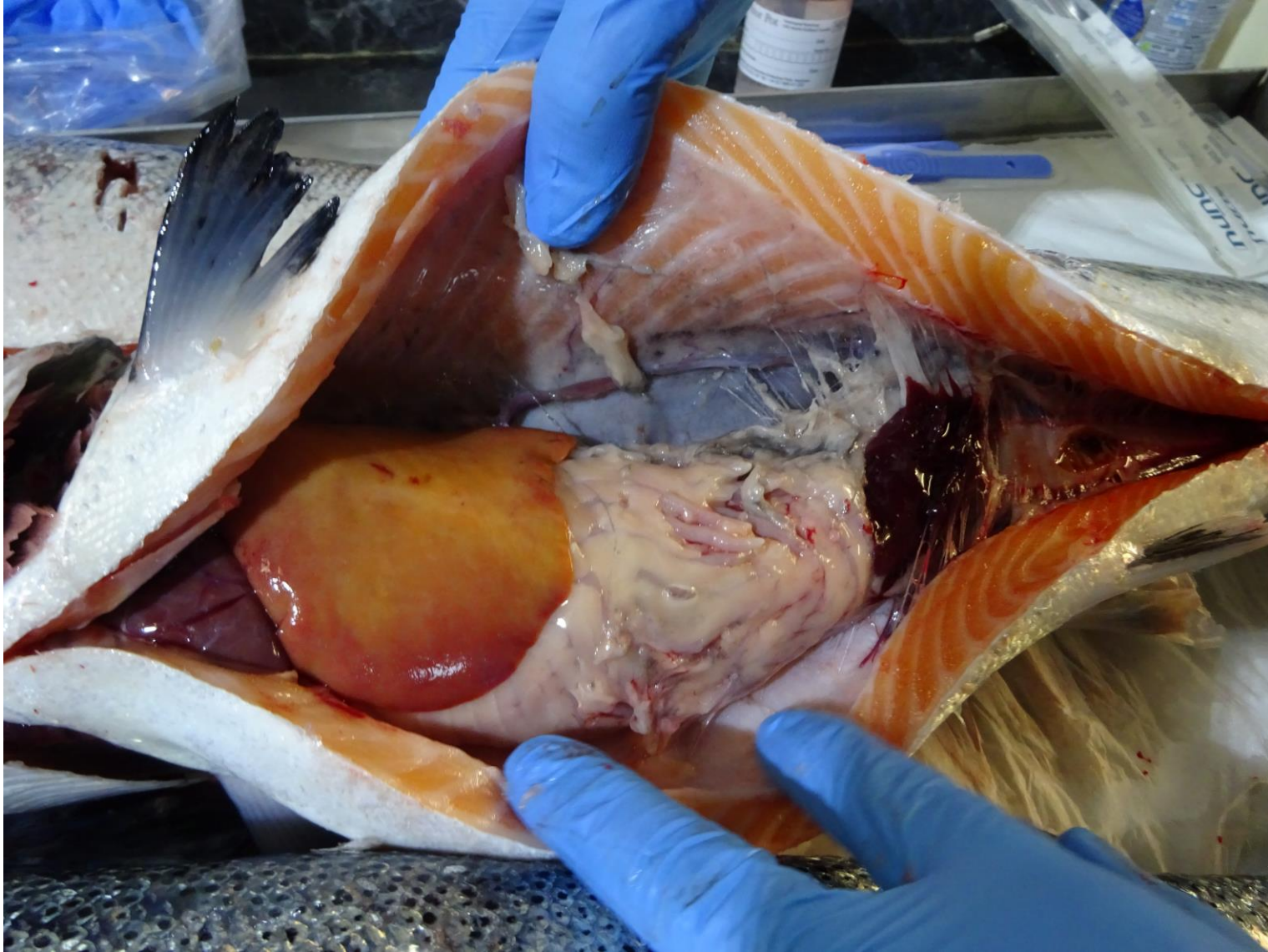


2019-0135 North Papa Fish 3 Gills





2019-0135 North Papa Fish 1 internal



2019-0135 North Papa Fish 2 Internal





20190135 North Papa Fish 3 Internal