



Scottish Government: CEU@gov.scot

Veterinary Medicines Directorate: postmaster@vmd.defra.gsi.gov.uk

21 May 2020

FOI Request: Formalin/Formaldehyde Use on Scottish Salmon Farms

Please provide information relating to the use of Formalin/Formaldehyde on salmon farms in Scotland since 1st January 2013.

Please include data, reports, emails, letters, complaints, photos, videos, Cabinet Briefings, internal discussions, scientific assessments, papers and any other information relating to Formalin/Formaldehyde use on salmon farms in Scotland.

Please note that Scottish Salmon Watch's [FOI request filed yesterday](#) (20 May 2020) included:

"SEPA claimed in an email dated 6 November 2019 ([disclosed via F0191629 on 12 May 2020](#)) that:

SEPA is already involved in discussions at a national/UK level with the Veterinary Medicine Directorate (VMD) about formalin and other chemicals used in freshwater and marine aquaculture.

Please provide information on those discussions with the VMD and other government agencies since 2017."

For this aspect of the FOI, please take this back to 1st January 2013.

Please note that last week (13 May 2020) Scottish Salmon Watch [questioned the accuracy of the data citing other uses of Formaldehyde \(Formalin\) by salmon farms not officially reported by SEPA](#). For reference, Scottish Salmon Watch encloses references to the use Formalin as reported by the Scottish Government's [Fish Health Inspectorate via 'Case Information'](#) in an Appendix at the end of this FOI request. Please note that this is not an exhaustive list (searching the FHI 'Case Information' is time-consuming since the 'Find' function in the PDF reports does not pick up all the references to 'Formalin' or 'Formaldehyde').

Please note that this FOI request dates back to 1 January 2013 since the [FHI 'Case Information' database also dates back to 2013](#) and since a previous [FOI disclosure on Formalin from the Scottish Government also dates back to November 2012](#) (as [reported by The Sunday Express in January 2013](#)).

A review of the FOI disclosure published in January 2013 is available via [Formalin: Scottish Salmon's Toxic Solution](#) - including:

1,400 Litres of Carcinogenic Chemical Discharged into Loch Roag:

The 'Discharge Vessel Log of Operations' included fourteen discharges of 100 litres of Formalin from the Viktoria Viking wellboat into Loch Roag between 6 and 8 November 2011:

DISCHARGE VESSEL LOG OF OPERATIONS*

MARINE (SCOTLAND) ACT 2010

MARINE SCOTLAND, MARINE LABORATORY, ABERDEEN

DIS

Discharge Vessel: Viktoria Viking Log Sheet Page Number: 1
 Discharge Operation: Fish Treatment – Wellboat Marine Licence Number: 04339/11/0
 Discharge Site: Offshore Loch Roag Farm of Operation: Miavaig

Date	Quantity of Chemical discharged (ml or grams)	Chemical(s) or agent(s) discharged	Discharge operation			
			Time and position: Start	Weather, sea state and tidal set	Time and position: Completion	Rate/ duration* discharge
07.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild, cloudy	Within the drop zone	10 minutes
07.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild, cloudy	Within the drop zone	10 minutes
07.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild, cloudy	Within the drop zone	10 minutes
07.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild, cloudy	Within the drop zone	10 minutes
07.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild, cloudy	Within the drop zone	10 minutes
07.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild, cloudy	Within the drop zone	10 minutes
07.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild, cloudy	Within the drop zone	10 minutes
08.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild/cold, clear and cloudy	Within the drop zone	10 minutes
08.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild/cold, clear and cloudy	Within the drop zone	10 minutes
08.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild/cold, clear and cloudy	Within the drop zone	10 minutes
08.11.11	100 litres	Formalin 38%	58° 18.294N 06° 57.680W	Mild/cold, clear and cloudy	Within the drop zone	10 minutes
Total	1000 Litres					

MARINE (SCOTLAND) ACT 2010

MARINE SCOTLAND, MARINE LABORATORY, ABERDEEN

DIS

Discharge Vessel: Viktoria Viking Log Sheet Page Number: 2
 Discharge Operation: Fish Treatment – Wellboat Marine Licence Number: 04339/11/0
 Discharge Site: Offshore Loch Roag Farm of Operation: Miavaig

Date	Quantity of Chemical discharged (ml or grams)	Chemical(s) or agent(s) discharged	Discharge operation			
			Time and position: Start	Weather, sea state and tidal set	Time and position: Completion	Rate/ duration* discharge
06.11.11	100 litres	Formalin 38%	58° 18.500N 06° 51.900W	Mild, cloudy	Within the drop zone	10 minutes
08.11.11	100 litres	Formalin 38%	58° 18.500N 06° 51.900W	Mild, cloudy	Within the drop zone	10 minutes
08.11.11	100 litres	Formalin 38%	58° 18.500N 06° 51.900W	Mild, cloudy	Within the drop zone	10 minutes
08.11.11	100 litres	Formalin 38%	58° 18.500N 06° 51.900W	Mild, cloudy	Within the drop zone	10 minutes
Total	400 Litres					

Please include any similar documents and data as part of this FOI.

GAAIA's report - "[Formalin - Scottish Salmon's Toxic Solution](#)" (January 2013) - included:

In December 2011, three weeks AFTER the use of Formalin in Loch Roag, the UK's Veterinary Medicines Directorate advised the Scottish Government that "Formalin is not an authorised veterinary medicinal product in the UK" and that "as Formalin is not an authorised product then we have no information on its fate or effects in the environment and no 'position' regarding its use from an environmental perspective."

From: Mills, Jennifer [j.mills@vmd.defra.gsi.gov.uk]
Sent: 01 December 2011 15:57
To: Bland M (Michael) (MARLAB)
Cc: Shelley, Lorna; Reynolds, Lea
Subject: FW: Use of formalin to treat Atlantic salmon suffering from Amoebic Gill Disease

Dear Mike

Thank you for your query which has been passed to me for reply. Formalin is not an authorised veterinary medicinal product in the UK, however, we are content that formalin may be administered under the direction of a veterinary surgeon as a specific course of treatment administered in accordance with the prescribing cascade. As formalin is not an authorised product then we have no information on its fate or effects in the environment and no 'position' regarding its use from an environmental perspective.

VMD concluded their advice by advising the Scottish Government to contact SEPA:

It may be advisable to also contact the Scottish Environment Protection Agency (SEPA) to ensure that the release of formalin would not have any wider environmental implications.

The request for advice from the VMD occurred AFTER Marine Scotland sanctioned the use of Formalin in Loch Roag (i.e. the use of Formalin took place AGAINST the advice of SEPA and WITHOUT even contacting the VMD!):

From: Michael.Bland@scotland.gsi.gov.uk [mailto:Michael.Bland@scotland.gsi.gov.uk]
Sent: 10 November 2011 11:27
To: Baker, Amanda
Subject: Use of formalin to treat Atlantic salmon suffering from Amoebic Gill Disease

Dear Amanda,

You provided some information to me regarding hydrogen peroxide product for use in treating sea lice some time back.

I work in the marine licensing team at Marine Scotland and we licence discharges in the sea. Several salmon companies have asked to discharge formalin into the marine environment after treating Atlantic salmon for amoebic gill disease. We licensed one series of discharges to deal with one specific outbreak after information from the vet stated it was the best solution available to the company.

Does the VMD have a position on the treating of post smolt to adult Atlantic salmon with formalin?

Any advice or information you could provide would be most welcome.

Marine Scotland also reached out to the VMD and SEPA the week AFTER the use of Formalin in Loch Roag:

From: Bland M (Michael) (MARLAB)
Sent: 11 November 2011 11:33
To: Cartney M (Matthew)
Cc: Stewart JB (Bruce); Megginson C (Colin) (MARLAB)
Subject: The discharge of formalin from Wellboats

Matt,

Last week we speedily turned around an application for a one-off series of discharges of formalin from a wellboat. The formalin had been used to treat an outbreak of Amoebic Gill Disease in farmed Atlantic salmon in Loch Roag, Lewis.

Formalin is a biocide and is not often licensed for discharge from fish farms under CAR. It is commonly used in freshwater aquaculture to remove parasites from fish gills. There is interest from the rest of the industry to get a licence for the same and we will come under increasing pressure to repeat the licensing.

I have approached SEPA and the Veterinary Medicines Directorate to establish their take on the issue and we should meet with SEPA to discuss a way forward.

Bruce, I have copied you in as you may be interested in the developments here. When we set up the licensing of chemotherapeutants for sealice we took our lead from SEPA, this time it looks as though the industry is only looking for wellboat discharges and we will therefore have to take the lead, despite SEPA's long history of assessing such activities.

Mike

Please include any updates via this FOI request.

GAAIA's report - "[Formalin - Scottish Salmon's Toxic Solution](#)" (January 2013) - also included:

Formalin is so toxic that Marine Scotland advised staff to stay inside the wheelhouse of the wellboat during use:

From: Bland M (Michael) (MARLAB)
Sent: 04 November 2011 14:52
To: McKenzie G (Gregor)
Cc: McKie J (Jim) (MARLAB); Downie D (Douglas)
Subject: Formalin MSDS and advice from MS H&S
Attachments: DisplayMSDSPage.pdf

Dear Gregor,

Within Marine Scotland Science Formalin is used for a variety of activities such as as a preservative for biological samples. The implications of using formalin have been assessed by staff at MSS using MSDS (attached). In consultation with H&S adviser of MSS it is apparent that the best means of controlling exposure is through isolating the member of staff from the chemical. The best way to achieve this is for the member of MS staff to remain in the wheelhouse of the vessel during the both the discharge activity and any steaming.

In addition to this information, the attention of the Wellboat operator should be drawn to the first aid measures as laid down in section 4 of the MSDS, the fire fighting measures as laid down in Section 5 of the MSDS and the accidental release measures in section 6 of the MSDS. As the discharge to the marine environment will be permitted under the marine licence, spillages on the decks of the vessel must be washed overboard to ensure no secondary exposure.

If the member of MS staff stays in the wheelhouse for the whole duration of the inspection the risk of exposure would be reduced to an acceptable level.



DisplayMSDSPage.pdf (50 KB)

Kind regards

Mike

As part of this FOI reply please include any discussions and information relating to health and safety as well as environmental risks of Formaldehyde (Formalin).

GAAIA's report - "[Formalin - Scottish Salmon's Toxic Solution](#)" (January 2013) - also included:

Further Formalin Applications During Summer of 2012:

In July 2012, the Scottish Government's Marine Laboratory admitted that it was still "struggling to get advice" following further requests by the industry to use Formalin:

From: Bland M (Michael) (MARLAB)
Sent: 27 July 2012 14:20
To: Gubbins M (Matthew) (MARLAB)
Subject: FW: Formalin 2012

Matt,

Craig had nothing and Douglas has helped a little. We are being asked for formalin discharge licences as last year. We have a strong presumption against but I am struggling to get advice, are there any other avenues you think I could consider?

Mike

Another email refers to a salmon farmer wanting to use Formalin in July 2012 and that AGD "has reared its head again as a serious issue in Scottish salmon farms over the last few months":

From: [REDACTED]
Sent: 16 July 2012 13:37
To: Duncan R (Rachael) (MARLAB)
Subject: Amoebic Gill Disease
Follow Up Flag: Follow up
Flag Status: Red

We had some correspondence last year regarding amoebic gill disease treatment- unfortunately as you may be aware it has reared its head again as a serious issue in Scottish salmon farms over the past few months. Since the spring, most affected farms have been treating with hydrogen peroxide with reasonable success, although my experience is that as water temperature increases a few sites are finding that they need to re-treat- we expect this shortening of treatment intervals to continue until water temperatures peak in the autumn.

While we're not presently keen to use formalin for AGD, and it seems that the opinion amongst the very few vets who have used it for this purpose is that the results are ambiguous, I wondered if it would be possible to get comment from Marine Scotland (from a licensing perspective) regarding the use of formalin in wellboats for AGD. As you're aware, permission was granted for its use by the Scottish Salmon Company at Loch Roag last year. While I did not attend the treatment myself, the opinion of the attending biologist was that it was beneficial, severely diseased fish coped remarkably well with it, and it interrupted the mortality pattern on the site. Unfortunately the chance wasn't taken to collect detailed efficacy results at the time. We expect that as the weeks go on our practice (and also Marine Scotland) may well receive inquiries from salmon producers regarding the feasibility of using formalin to treat AGD cases if hydrogen peroxide becomes unacceptably hazardous to fish. I should add that formalin also becomes more hazardous at higher temperatures, and our advice to our clients is likely to remain that peroxide is the best understood treatment presently (excluding fresh water), but it would be good to have comment from Marine Scotland regarding formalin at this point.

Lastly, one of our clients has indicated that if MS were prepared to consider permission for an isolated treatment of one or two cages with formalin (perhaps during site treatment with peroxide), they'd be pleased to co-operate with any attempt to compare or benchmark the two treatments- perhaps this might be of interest to the MS pathologists etc?

As part of this FOI please provide details of any requests and applications to use Formalin/Formaldehyde.

Please note that Scottish Salmon Watch's [letter dated 26 June 2019](#) (re-enclosed below for reference) included:

"Fish Health Inspectorate 'Case Information' for 2013-2019 (including details of fish farms using Formalin) is available [online here](#). Why is this use of Formaldehyde (Formalin) not captured by SEPA's FOI reply to Scottish Salmon Watch? Surely the Scottish Government together with the VMD and SEPA should report the use of Formaldehyde (Formalin) via a public register?"

Did this letter generate any discussions with SEPA and other government agencies?

In any case, please include any discussions relating to the use of Formalin/Formaldehyde on salmon farms in Scotland since 1st January 2013 including any following Scottish Salmon Watch's [letter dated 26 June 2019](#) and subsequent media coverage in [The Ferret](#) (30 June 2019) and [The Sunday Times](#) (21 July 2019).

As context to this FOI request, please note that Scottish Salmon Watch received some incomplete information on the use of Formalin/Formaldehyde from SEPA in April 2019 via [F0190275](#) (read more via [EXPOSED: Scottish Salmon's Cascading Use of Cancer-Causing Chemical](#)) and in May 2020 via [F0191629](#).

Scottish Salmon Watch's FOI request on Formaldehyde (Formalin) to SEPA in March 2019 stemmed from [an email received from a whistleblower at The Scottish Salmon Company](#):

Sent: 14 March 2019 13:55

To: Don Staniford

Subject: Re: FHI report on Kinlochmoidart Hatchery - ERM, Formalin, antibiotics & mortis

Yes be worth asking SNH in Fort William why Sepa is condoning dilute Formic acid being discharged into a sssi river straight from the container. They empty 25litres of formaldehyde straight into each fish tank without following the correct procedure which should be isolating the tank. There is 10 tanks in the flothrough which runs directly into the river! This is results in the dilute formic acid being flushed into the river killing various species in the river!

Scottish Salmon Watch's FOI request to SEPA in March 2019 explained:

"As context, the Scottish Government's Fisheries Health Inspectorate visited Kinlochmoidart Hatchery on 9 October 2018 - revealing the use of the carcinogenic Formalin which was "flushed through a number of tanks".

Via: <https://www2.gov.scot/Topics/marine/Fish-Shellfish/FHI/CaseInformation/caseinfo2018/octdec>

[Cases 20180392-20180509](#)

Case No:	2018-0493		Date of visit:	09/10/2018	
Time spent on site:	3 Hrs		Main Inspector:	WJM	
Site No:	FS0146	Site Name:	Kinlochmoidart Hatchery		
Business No:	FB0169	Business Name:	The Scottish Salmon Company		
Case Types:	1 ECI	2 CNI	3 VMD	4	5
Water Temp (°C):	11.5	Thermometer No:	Site	FHI 045 completed	
Observations:	Region:	HI	Water type:	F	CoGP MA
Dead/weak/abnormally behaving fish present?	<input checked="" type="checkbox"/>	Y If yes, see additional information/clinical score sheet.			
Clinical signs of disease observed?	<input type="checkbox"/>	N If yes, see additional information/clinical score sheet.			
Gross pathology observed?	<input type="checkbox"/>	N If yes, see additional information/clinical score sheet.			
Diagnostic samples taken?	<input type="checkbox"/>	N			

Additional Case Information:

Slight increased mortalities during week 39 put down to post vaccination. Levels still remained below reporting criteria and dropped back to normal levels following week.

Formalin flushed through a number of tanks (5,6,11,12) for costia

FHI contact details not updated on escape plan for Kinlochmoidart. Issue raised with site manager and will be corrected.

Water comes in via river passed through screens, but site also has 3 boreholes providing top up water for recirculation tanks.

A few morts noted in a few tanks. Maximum 2/tank. No signs of disease, no diagnostics taken. Fish sampled for VMD appeared healthy.

Increased Mortalities

wk 23 - S0 2.7% (35,000), S1 1.27% (7,000)
 wk 24 - S0 2.54% (32,000), S1 0.59% (3,000)
 wk 25 - S0 1.47% (18,000), S1 0.3% (1,600)
 wk 26 - S0 1.69% (20,000), S1 0.18% (900)
 wk 27 - S0 1.48% (17,500), S1 0.26% (1,400)

ERM put down as main cause, fish treated with antibiotics and mortalities started to decrease wk 24. Tank flow through 10 (S0 stock) worst affected, accounting for nearly 50% (19,000) of the morts wk 23 but dropped to 6,000 on wk 24.

S0 stock worst affected during. Fish also stressed during this period due to increased water temperatures because of the weather.

Mortality Records	
1. Mortality records available for inspection?	<input checked="" type="checkbox"/> Y
2. How are mortalities disposed of?	Ensiled - on site
If other detail:	
3. Mortality records complete and correctly entered?	<input checked="" type="checkbox"/> Y
4. Recent mortality (last 4 wks):	Wk 37 - 40: 5336 (0.56%), 4957 (0.53%), 6404 (0.68%), 5334 (0.57%)
5. Evidence of recent increased/atypical mortalities?	<input type="checkbox"/> N
If yes, facility nos/no mortality per facility/no stock per facility/reason:	
6. Any other peaks in mortality during period checked?	<input checked="" type="checkbox"/> Y
If yes, detail:	Wk 7 - 8% Due to pump failure and airlock in pipework. Wk23,24,26 & 27 due to ERM and stress from increased water temperature (see additional information)
7. Have increased (unexplained) mortalities been reported to vet or FHI?	<input checked="" type="checkbox"/> Y
If yes, detail action:	Antibiotics administered.
8. Have 'mortality events' been reported to FHI? If no, add MRT case and enter on mortality events sheet.	<input checked="" type="checkbox"/> Y

Treatments and Medicines Records

1. Recent treatments (last 4 wks)? Y

If yes, detail: Formalin

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)? Formalin used only in tanks 5, 6, 11 & 12

Data via Page 259 to page 270: <https://www2.gov.scot/Resource/0054/00546463.pdf>"

However, SEPA's FOI reply in April 2019 ([F0190275](#)) failed to include any data on the use of Formalin (Formaldehyde) by any site operated by The Scottish Salmon Company at either Kinlochmoidart or any other location.

In fact, the only salmon farm where The Scottish Salmon Company has officially reported the use of Formaldehyde (Formalin) to SEPA since 2017 is at their Couldron site in Loch Damph in September 2019 (as disclosed by SEPA in May 2020 via [F0191629](#)).

Site Name	Operator	Licence	Month	Formaldehyde (active ingredient in grams)
Loch Damph (South), Couldron	The Scottish Salmon Company Ltd	CAR/L/1003990	Sep-19	30000

Scottish Salmon Watch is extremely sceptical that this has been The Scottish Salmon Company's only use of Formaldehyde (Formalin) in addition to [1,400 litres of Formalin solution reportedly used in Loch Roag in 2011](#). Video footage taken by Scottish Salmon Watch in June 2019 [shows vats of Formaldehyde - marked "corrosive" and "danger" in Spanish - stashed outside The Scottish Salmon Company's Russel Burn Hatchery on the shore of Loch Kishorn](#) even though [The Scottish Salmon Company](#) did not report to SEPA the use of any Formaldehyde in 2017, 2018 or prior to September 2019.



As Scottish Salmon Watch explained to SEPA in June 2019:

"A report - "[The State of Scottish Salmon Farming in 2018](#)" - published by Scottish Salmon Watch in March 2019 detailed 80,000 mortalities at The Scottish Salmon Company's Russel Burn Hatchery in November 2018 with the use of Formalin identified.

Here's details from the [Scottish Government's Fish Health Inspectorate report](#):

Case No:	2018-0628	Date of visit:	27/11/2018
Time spent on site:	4 hours	Main Inspector:	ASM
Site No:	FS0500	Site Name:	Russel Burn
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Ova and fry units being built at the moment. Due to be completed in June 2019. New shed being built and the site name changed. Reminded to contact FHI to change details.
 Most of the old tanks will be replaced with new bigger ones.
 Vaccination reportedly caused fungus on the site shortly before the inspection. The stress of the vaccination process is thought to have reduced immunity. This together with the fact that the smoltification is now brought on with in feed treatment rather than the salt being added to the water. This is meant that the fungal spores are not killed in the water. Salt has been ordered and will added to the water the week of the inspection.
 All fish removed for VMD treated with TMS, Pyceze and Aquacen (Formalin) to combat fungus
 Pre-transfer check (report not yet produced. Check conducted the day before inspection) made by company biologist and advised to move the fish to seawater. Fish will be moved in December 2018, 2 weeks post inspection.

Quality cull conducted in Nov of 4.4% (in 1 day) but not reported to MSS as it is labelled as a quality cull in the mortality record.

Recent (last 4 wks) disease problems?	Y	Any escapes (since last visit)?	
If yes, detail:	Fungus on site reportedly from vaccination (see additional comments)		

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):	80,100 fish due to quality cull and fungus.
5. Evidence of recent increased/atypical mortalities?	Y
If yes, facility nos/no mortality per facility/no stock per facility/reason:	G1,000 euthanized in a 'quality cull' as they were deformed or not feeding, 19/11/18, in cage D7. All killed from the same cage. 4.4% in a week.

1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, Pyceze
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)?	Pyceze

SEPA's FOI reply in July 2019 via [F0190713](#) confirmed that The Scottish Salmon Company had not reported the use of Formaldehyde (Formalin) at Russel Burn or any other salmon farm (see Appendix below for other reports of Formalin use by The Scottish Salmon Company via FHI 'Case Information'):

Response

We can confirm that the figures supplied for the previous request (reference F0190275) is the only information held by SEPA regarding the use of Formaldehyde (Formalin) at fish farms. <http://apps.sepa.org.uk/disclosurelog/#>

SEPA's FOI reply in April 2019 (F0190275) included an Excel spreadsheet (F0190275 ELMS - R) detailing a complaint in November 2018 filed against the use of Formaldehyde by a fish farm in Loch Awe (Scottish Salmon Watch [understands that Dawnfresh operates a trout farm at Braevallich in Loch Awe](#)):

ACTION	ACTIVITY	CATCHMENT	GEOGRAPHICAL_LOCAL_AUTHORITY	LOCATION_DESCRIPTION
30/11/2018 [email address removed] via SCC: [personal details removed] a freshwater Salmon farm rearing smolts, the loch is approx 1 mile long and a few hundred yards wide, over the last 2 weeks the farmers have taken around 20 blue 40l drums of formaldehyde out to the 5 cages to treat the fish,[personal details removed]I am concerned that this chemical could be contaminating our air and water supply, [personal details removed] there is a strong smell blowing over from the cages a mixture of dead fish and formaldehyde, could this be of any threat to us?03/12/2018 [Name removed] - [email address removed] :I am emailing in response to your enquiry last Friday and apologise we have not responded sooner. We regulate fish farms with respect to discharge to the water environment and if you can give us more detail in terms of the fish farm site, we can investigate your complaint. However in terms of the health concerns you have raised, I recommend you contact environmental health at Argyll and Bute council. Their number is 01546 605519 or the main switch line is 01546 605522.23.12.2018 [Name removed] - no update and probably primarily a matter for environmental health. No further SEPA action required.	Waste - Unlicensed	River Awe	Argyll & Bute	Braevallich Fish Farm, Loch Awe, Dalmally

In 2018, Scottish Salmon Watch published other videos showing [caches of toxic chemicals](#) including [vats of Formaldehyde at Kames Fish Farming near Kimelford](#) with a label warning "suspected of causing genetic defects" and "may cause cancer".



However, a FOI reply in May 2020 via [F0191629](#) detailed how Kames had officially reported the use of Formaldehyde (Formalin) to SEPA for the first time in September 2019.

Site Name	Operator	Licence	Month	Formaldehyde (active ingredient in grams)
Loch Avich Fish Farm	Kames Fish Farming Ltd	CAR/L/1000235	Sep-19	396000
Loch Avich Fish Farm	Kames Fish Farming Ltd	CAR/L/1000235	Oct-19	390000
Loch Tralaig	Kames Fish Farming Ltd	CAR/L/1000233	Oct-19	253000
Loch Tralaig	Kames Fish Farming Ltd	CAR/L/1000233	Nov-19	624000
Loch Tralaig	Kames Fish Farming Ltd	CAR/L/1000233	Dec-19	526000

In November 2019, Scottish Salmon Watch was [alerted to the use of Formalin by Kames in Loch Tralaig including shocking video footage.](#)



Day 20 of Kames Fish farm pouring Formalin 40 into Loch Tralaig

Watch more video footage [online here](#)

The screenshot shows the YouTube channel page for 'Loch Tralaig', which has 4 subscribers. The channel's uploads are listed below, featuring five videos:

- 5L Cans of a Tricaine poured into buckets then poured into... (5:20, 62 views)
- Day 20 of Kames Fish farm pouring Formalin 40 into... (2:19, 108 views)
- Toxic Scottish Salmon Corrosive & Carcinogenic... (2:20, 69 views)
- 05 11 2019 Kames Loch Tralaig Formalin 40 (6:51, 425 views)
- Loch Tralaig (1:56, 135 views)

Has Kames reported the use of Formaldehyde (Formalin) to the Scottish Government or the VMD prior to October 2019?

For example, a [Scottish Government Fish Health Inspectorate report in February 2019](#) detailed the use of Formalin by [Kames Fish Farming salmon farm in Loch Tralaig](#):

Case No:	2019-0062	Date of visit:	26/02/2019
Time spent on site:	2.5 hours	Main Inspector:	
Site No:	FS0468	Site Name:	Loch Tralaig
Business No:	FB0134	Business Name:	Kames Fish Farming Ltd

All waste held at Kames Bay Pier, prior to being transported to Energen for disposal..

Fungus has been present on site during cycle, treated with formalin.

In July 2019, Scottish Salmon Watch [published video evidence of historical use of Formalin \(Formaldehyde\) by Mowi in Loch Arkaig](#).



Read more via [Sunday Times: "Chemical fears at Scots fish farms"](#)

How long has Mowi/Marine Harvest been using Formaldehyde (Formalin) in Loch Arkaig and other sites across Scotland?

Please consider this a formal FOI request under the relevant FOI and Environmental Information Regulations.

Please provide this information electronically.

Please provide a receipt for this FOI request.

Finally (to reiterate from Scottish Salmon Watch's [letter dated 26 June 2019](#)), [in view of serious health concerns surrounding its carcinogenicity as well as welfare and environmental concerns](#), Scottish Salmon Watch calls for an immediate ban on the use of Formaldehyde (Formalin) on Scottish salmon farms.

Yours sincerely,

Don Staniford

[Director, Scottish Salmon Watch](#)

Appendix: Recent Reports of Formalin Use via [FHI 'Case Information'](#)

Summary:

Here's a list of some recent uses of Formalin as reported by the [Scottish Government's Fish Health Inspectorate 'Case Information'](#) (not all cases were reported by SEPA - and note prior to 2019 that Mowi was known as Marine Harvest):

February 2020: The Scottish Salmon Company's Appleburn Hatchery in Wester Ross
February 2020: Mowi's salmon farm in Loch Arkaig in Highland
January 2020: Cooke Aquaculture's Loch Garasdale salmon farm in Argyll
January 2020: Landcatch's Ormsary Smolt Unit in Argyll
December 2019: Landcatch's Clachbreac salmon farm in Argyll
November 2019: Scottish Sea Farms Barcaldine Smolt Unit on Loch Creran in Argyll
October 2019: Kames Fish Farming salmon farm in Loch Avich in Argyll
September 2019: FAI Aquaculture's FAI Aultbea site in Wester Ross
July 2019: Landcatch's Ormsary Smolt Unit in Argyll
June 2019: Torridon Smolts in Loch Damph in Wester Ross
February 2019 - Loch Duart's Duartmore hatchery in Sutherland
February 2019 - Landcatch's Ormsary Smolt Unit in Argyll
February 2019 - Kames Fish Farming salmon farm in Loch Tralaig in Argyll
January 2019 - Cooke Aquaculture's Ardtaraig Hatchery on Loch Striven in Argyll
January 2019 - Mowi's Inchmore Hatchery in Glenmoriston
November 2018 - Cooke Aquaculture's Yetts O'Muckart salmon farm in Clackmannanshire
November 2018 - Hebridean Smolts' Clachan Hatchery in Loch Carnan in South Uist
October 2018 - Landcatch's Ormsary Smolt Unit in Argyll
October 2018 - Scottish Sea Farms' Knock hatchery on the Isle of Mull
October 2018 - Marine Harvest's Laddie Wood salmon farm in Loch Garry in Lochaber
October 2018 - The Scottish Salmon Company's Kinlochmoidart Hatchery in Highland
August 2018 - Marine Harvest's Glenfinnan salmon farm in Loch Shiel in Lochaber
July 2018 - Marine Harvest's Loch Lochy salmon farm in Lochaber
July 2018 - Marine Harvest's Lochailort Recirculation Hatchery in Lochaber
April 2018 - FAI Aquaculture's Aultbea fish farm in Wester Ross
March 2018 - The Scottish Salmon Company's Langass Hatchery in North Uist
February 2018 - Cooke Aquaculture's Furnace Hatchery on Loch Fyne
December 2017 - Landcatch's Ormsary Smolt Unit in Argyll
November 2017 - Scottish Sea Farms' salmon farm in Loch Ba on the Isle of Mull
November 2017 - Marine Harvest's salmon farm in Loch Lochy in Lochaber
October 2017 - Marine Harvest's Loch Ness salmon farm in Highland
October 2017 - Cooke Aquaculture's "organic" salmon farm at Sallachy in Sutherland
October 2017 - Cooke Aquaculture's Cliff salmon farm in Shetland
October 2017 - Scottish Sea Farms' Loch Frisa salmon farm on the Isle of Mull
October 2017 - Scottish Sea Farms' Knock salmon farm on the Isle of Mull
October 2017 - Marine Harvest's Glenfinnan salmon farm in Loch Shiel in Lochaber
October 2017 - Marine Harvest's salmon farm in Loch Arkaig in Highland
July 2017 - The Scottish Salmon Company's Russel Burn Hatchery on Loch Kishorn

Case Reports:

Reports of Formalin use [published by the Scottish Government's Fish Health Inspectorate via 'Case Information'](#) (note that this is not an exhaustive list and not all salmon farms are inspected every year):

2020:

Case No:	2020-0006	Date of visit:	22/01/2020
Time spent on site:	4 hours	Main Inspector:	
Site No:	FS0866	Site Name:	Loch Garasdale
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

Additional Case Information:

Going to sea 28th March - Stronsay in Orkney.

Fish not vaccinated until 16th of March to prevent fungal issues

Morts are ensiled on site and collected by Hazco for disposal. Collected once a year when site is fallow. Stored in IBCs. Pumped out of IBCs and into a tanker.

Current stock input from Carindow in July 2019.

No issues with previous cycle of fish

Last treatments were post-vaccine for previous cycle - Formalin treatments - 23/3/19 - 30/3/19

Case No:	2020-0010	Date of visit:	21/01/2020
Time spent on site:	6 hours	Main Inspector:	
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Additional Case Information:

Export of 315@58g smolts to Wageningen University in Holland, IntraGB.2020.0001584. Transported by Solway Transport. From tank E1. Vaccinated 20/11/19 and post treated with formalin. Morts in tank low and attributed to fungus.

2020 S1 going to sea starting wk10 to wk17 - going SSC - Lamlash, Loch Duart to Sound of Harris

FVG in for lesions observed mainly in tank X9, suspected bacterial growth, likely Flavobacterium - treatments; florocol, cress and formalin. Morts across the site since vaccination in September about 2.2% in 2020 S1s.

Florocol treatment 16th Jan 2020 - all 2020 S1 tanks treated and currently under treatment finishing on Sunday. Feed mixed on site.

wk3 peak morts in tank X9 -146 for the day all with lesions; 13/1/20, tank X10 338 morts due to lesions

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Florfenicol, Formalin Cress	
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)?	florfenicol formalin Cress	

Case No:	2020-0085	Date of visit:	25/02/2020
Time spent on site:	3hrs	Main Inspector:	
Site No:	FS0849	Site Name:	Loch Arkaig
Business No:	FB0119	Business Name:	Mowi Scotland Ltd

Additional Case Information:

Waste incinerated on site unless the incinerator cannot cope with the capacity. Surplus waste is taken away by Billy Bowie and taken to Dundas Chemicals.

Saprolegnia has been confirmed on site. However it is not causing significant mortalities at this time and is currently being treated with Formalin and Cress prior to transfer off site w/b 16/03/2020.

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Formalin	
If other, detail:	Cress has also been used as a treatment.	
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)?	Formalin	
If other, detail:	Fish in withdrawal for Cress.	

Case No:	2020-0096	Date of visit:	25/02/2020
Time spent on site:	2h	Main Inspector:	
Site No:	FS0301	Site Name:	Appleburn Hatchery
Business No:	FB0189	Business Name:	The Scottish Salmon Company

Additional Case Information:

Fish had been recently treated with formalin and Cress.

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Formalin, Cress	
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)?	Formalin Cress	

[2019:](#)

Case No:	2019-0270	Date of visit:	11/06/2019
Time spent on site:	2 hours	Main Inspector:	
Site No:	FS0375	Site Name:	Loch Damp
Business No:	FB0224	Business Name:	Torridon Smolts Ltd

Additional Case Information:

Fish input 6 days ago from Barvas by lorry. More fish to arrive at the end of June. Previous cycle put to sea in Feb 2019. No reported issues. Small amount of fungus. Formalin water treatment in summer for white spot and costia
Unannounced inspection for VMD. Fish 3g so unable to take samples.

Formalin treatments not recorded in medicine records as a water treatment. No other treatments. Vaccines recorded in book.

Case No:	2019-0352	Date of visit:	21/07/2019
Time spent on site:	1 hour	Main Inspector:	
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Additional Case Information:

One tank inspected. E5, the tank containing the fish for export. No moribund fish observed in this tank. 21601 fish in tank at average weight of 28g.

Morts for E5; 2 over last week. - one of these attributed to fungus. Morts across E tanks low in past week. Peaked in E23; 43 fish/day/tank attributed to fungus and E4; 58/day fungus. Generally 0-20/tank/day attributed to fungus.

Weekly mortals across site; Wk28; 0.29% 6787 - post grading fungus, wk27; 0.15% 3546 fish, wk26; 0.009% 2302 fish, wk25; 0.06% 1472 fish.

trial in treatment for fungus, halimid, formalin and Cress.

Case No:	2019-0495	Date of visit:	11/09/2019
Time spent on site:	2 hours	Main Inspector:	
Site No:	FS0941	Site Name:	FAI Aultbea
Business No:	FB0439	Business Name:	FAI Aquaculture Ltd

Additional Case Information:

FMS - had been written for lump fish currently only fw salmon on site. Future plans for SW salmon would require a new FMS. Currently only salmon on site for work at Ardtoe. Looking to do feed trials in future.

Paperword b [REDACTED], Observed [REDACTED]

Trying to refine the process for the Clean-treat boat is the future focus for the company. .

Salmon being split in next 2 weeks. Came in from Lochialort as parr at 9g on 5th August. Moving out 2nd week Nov to Ardtoe.

VHP - contact details require update along with mort disposal. Review due in July 2019 but planed for September. New VHP to be sent through on completion. Received 9/10/19

Filter intake water to 1 micron, no saprolegnia, Issue with costia prior to reducing filtration on site. Treated on 3rd May with formalin.

Case No:	2019-0583	Date of visit:	09/10/2019
Time spent on site:	4.5 hrs	Main Inspector:	
Site No:	FS0270	Site Name:	Loch Avich
Business No:	FB0134	Business Name:	Kames Fish Farming Ltd

Additional Case Information:

Site started vaccination (PD7) of fish on 4/09/19 (week 36). Formalin treatment started on wk 37 (morts 1%, 3213) but on wk 38 morts suddenly jumped to 5.77% (18477).

Results from FVG from samples taken on the 16th September came back positive for furunculosis on the 19th. FVG also reported haemorrhaging in different organs, including the gills. Internal lesions were not as obvious as external ones. Bacteriology plates cultured by Kames isolated *Aeromonas salmonicida*, causative agent of furunculosis.

FVG issued prescription for Aquatet (Oxytetracycline, mixed at Kames) on 20/09/19 for 10 days of treatment which has appeared to have stopped the infection. Site still doing formalin treatment for saprolegnia.

██████████
Kames Fish Farming Ltd
Kilmelford
Oban
Argyll
PA34 4XA
██████████

FISH HEALTH INSPECTORATE VISIT REPORT

SUMMARY FOR INFORMATION OF SITE OPERATOR

BUSINESS No	FB0134	DATE OF VISIT	09/10/2019
SITE No	FS0270	SITE NAME	Loch Avich
INSPECTOR	██████████	CASE No	20190583

Mortality levels had increased at the site from 1% on week 37 to 5.77% on week 38 and continued to increase to 12.16% by the end of week 40.

Furunculosis and saprolegnia had been confirmed on site by the company prior to inspection. The site had also undergone a 10 day antibiotic (oxytetracycline) treatment 2 weeks earlier and was still carrying out formalin treatments to combat saprolegnia.

Several lethargic fish were observed across site with some also having patches of fungus-like infection around the dorsal fin.

Externally fish 3 and 4 had weak haemorrhaging on the ventral surface with fish 3 also showing weak haemorrhaging around the throat area. Internally all five fish showed weak haemorrhaging on the body wall.

Case No:	2019-0655	Date of visit:	05/11/2019
Time spent on site:	4 hours	Main Inspector:	██████████
Site No:	FS1328	Site Name:	Barcaldine Smolt Unit
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Formalin, Pyceze	
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)?	Formalin, Pyceze	

Additional Case Information:

Fish ensiled on site and waste transported by Murdoch and Sons Ltd to Deerdykes composting, Scottish Waters Cumbernauld.

Morts; 0.44% wk 42, 0.11% wk3, 0.65% wk44, 0.02% wk45. Attributed to post vaccine and fungal. 2 tanks treated with formalin and pyceze (Cress). Formalin under prescription. Smolt Unit; SU1Tanks 5,6

Saprolegnia post vaccine. Hoped that would not be issue on site as water is UV treated. Thought time of year (organic matter in water) and post vaccine damage has lead to the sap. Fish are being vaccinated at a larger size than normal as the unit was not ready for fish input. Large size of fish at vaccine has lead to some damage however mortality levels remain low.

First FHI visit to this site since in operation.

Case No:	2019-0743	Date of visit:	10/12/2019
Time spent on site:	3.5 hrs	Main Inspector:	
Site No:	FS0692	Site Name:	Clachbreac
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Additional Case Information:

Inspection of 2019 S0 stock held in tank B3 which are being exported to France on the 10th and 13th of December 2019 (certificate numbers INTRA.GB.2019.0035001 & 0035004). One lorry transporting fish had 12 separate tank units on it. A total of ~22,440 fish due to be exported on both days with ~1,870 fish/tank on lorry.

Mortality levels low from tank (B3) holding fish for export (Wk 46 - 112, 0.25%, wk 47 - 122, 0.28%, wk 48 - 33, 0.08%), wk 49 - 26, 0.06%/ per week for tank B3). Movement records and mortality records all well maintained. Site had been treated with formalin in early November for fungus. Fish looked to be in good condition at time of inspection.

A [Scottish Government Fish Health Inspectorate report in February 2019](#) detailed the use of Formalin at [Loch Duart's Duartmore Hatchery](#):

Case No:	2019-0097	Date of visit:	20/02/2019
Time spent on site:	2 hours	Main Inspector:	
Site No:	FS0062	Site Name:	Duartmore Hatchery
Business No:	FB0398	Business Name:	Loch Duart Ltd

Additional Case Information:

Site inspected following receipt by APHA of a non site-specific welfare complaint regarding Loch Duart. Accompanied APHA vets on visit.

Ova are stripped at Geisgeil Tank Site and transferred to Ormsary Hatchery for fertilisation and incubation. Ova are brought back to Duartmore Hatchery for hatching. Site grows fish to 5g and then transferred to Duartmore for ongrowing.

Very few treatments administered per cycle - a couple of treatments with formalin for Costia, but looking at using artificial seawater for this in future.

Mortalities are transferred to Badcall office for uplift to Gray Composting.

Two more [Scottish Government Fish Health Inspectorate reports in February 2019](#) detailed the use of Formalin at Landcatch's Ormsary Smolt Unit "up to twice a week to prevent fungal infections":

Case No:	2019-0060	Date of visit:	25/02/2019
Time spent on site:	2.5 hours	Main Inspector:	
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

S0s brought onto site in January 2019.

Formalin prescribed and administered under CASCADE.

Case No:	2019-0061	Date of visit:	25/02/2019
Time spent on site:	1.5 hours	Main Inspector:	[REDACTED]
Site No:	FS0681	Site Name:	Ormsary Hatchery
Business No:	FB0081	Business Name:	Landcatch Natural Selection Ltd

Stock on site currently hatching.
 Some post hatch mortalities observed, low mortality % no clinical signs observed.
 Water treated with Formalin up to twice a week to prevent fungal infections.

Another [Scottish Government Fish Health Inspectorate report in February 2019](#) detailed the use of Formalin by [Kames Fish Farming salmon farm in Loch Tralaig](#):

Case No:	2019-0062	Date of visit:	26/02/2019
Time spent on site:	2.5 hours	Main Inspector:	[REDACTED]
Site No:	FS0468	Site Name:	Loch Tralaig
Business No:	FB0134	Business Name:	Kames Fish Farming Ltd

All waste held at Kames Bay Pier, prior to being transported to Energen for disposal..
 Fungus has been present on site during cycle, treated with formalin.

Another [Scottish Government Fish Health Inspectorate report in January 2019](#) detailed the use of Formalin by [Cooke Aquaculture's Ardtaraig Hatchery](#):

Case No:	2019-0018	Date of visit:	22/01/2019
Time spent on site:	6 hrs	Main Inspector:	WJM
Site No:	FS0648	Site Name:	Ardtaraig Hatchery
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

1. Recent treatments (last 4 wks)?	[REDACTED]	Y
If yes, detail:	Formalin	
If other, detail:	[REDACTED]	
2. Medicines records available for inspection?	[REDACTED]	Y
3. Are records complete and correctly entered?	[REDACTED]	Y
4. Are fish in a withdrawal period?	[REDACTED]	Y
5. If yes, what treatment(s)?	Formalin	

Another [Scottish Government Fish Health Inspectorate report in January 2019](#) cited Formalin at Mowi's [Inchmore Hatchery](#):

Case No:	2019-0037	Date of visit:	04/02/2019
Time spent on site:	5.5 hours	Main Inspector:	
Site No:	FS0226	Site Name:	Inchmore
Business No:	FB0119	Business Name:	Mowi Scotland Ltd

All ova in from Norway - Mowi

import from 19/12/18 - fish split with Finfish. Electronic cert detailed Inverpolly has destination. Consignment was split at Aberdeen airport. Finfish have original copy. Imports team to contact Mowi.

Morts peak; 0.46%/site/week - post vaccine weeks 5 and 6.

Withdrawal for TMS, formalin, pyceze weeks 5 and 6 post vaccine use.

2018:

A [Scottish Government Fish Health Inspectorate report in November 2018](#) reported Formalin use at [Cooke Aquaculture's Yetts O'Muckart salmon farm in Clackmannanshire](#):

Case No:	2018-0608	Date of visit:	29/11/2018
Time spent on site:	2.5hours	Main Inspector:	KAS
Site No:	FS0371	Site Name:	Yetts O' Muckart
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

Additional Case Information:

Stocks on site all appeared healthy. Manager stated this has being the best crop of fish through the site so far - fish all from Holmwrangle and will be from Holmwrangle again next year.

Fish will be going off as 2019 s1's in March/April to Ness of Copister

Also stocked in July with s0's from cairndow following problems with water at Cairndow, these fish all went out in October to Stead of Aithness

Vaccinating over last 2 weeks with PD7. First batch vaccinated just about back to taking full feed.

Treated weekly with prophylactic formalin plus post vac formalin dosage at the moment.

6. Any other peaks in mortality during period checked?		Y
If yes, detail:	lesions late August, early Sept - controlled with pyceze and formalin treatment. Mortalies 50-100/tank peak at 500/tank but returned to normal within 2 weeks. No antibiotics used.	
7. Have increased (unexplained) mortalities been reported to vet or FHI?		Y
If yes, detail action:	FVG - significant flank lesions	

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Formalin	
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)?	Formalin	

A [Scottish Government Fish Health Inspectorate report in November 2018](#) reported Formalin use at [Hebridean Smolts' Clachan Hatchery in Loch Carnan in South Uist](#):

Case No:	2018-0611	Date of visit:	27/11/2018
Time spent on site:	3 hours	Main Inspector:	JET
Site No:	FS0398	Site Name:	Clachan Hatchery
Business No:	FB0444	Business Name:	Hebridean Smolts Ltd

Additional Case Information:

Water very dark in colour, difficult to observe fish below surface.
 Small number of fish with lesions observed in tanks 5 and 6, very active in water and unable to be caught with hand nets.
 Fish sampled for VMD appeared healthy
 Stock on site hatched at Mingarry Hatchery, then on-grown at Loch Na Shibaidh Mhor and Loch A'Clachan. Moved to Clachan Hatchery for grading and vaccination. Due to move fish to sea sites March - April 2019.
 Formalin treatment prescribed by vet via cascade.

Recent (last 4 wks) disease problems?	<input checked="" type="checkbox"/> Y	Any escapes (since last visit)?	<input type="checkbox"/> N
If yes, detail:	Some fish with lesions on site, low mortality, treated with Formalin and Pyceze, samples to be sent to FVG for further analysis.		

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

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin at Landcatch's Ormsary Smolt Unit:

Case No:	2018-0437	Date of visit:	23/10/2018
Time spent on site:	1 hour	Main Inspector:	JET
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Recent (last 4 wks) disease problems?	<input checked="" type="checkbox"/> Y	Any escapes?	<input type="checkbox"/>
If yes, detail:	Fungus infection (saprolegnia) - mainly affecting 2018 S0 stock		

5. Evidence of recent increased/atypical mortalities?	<input type="checkbox"/>	Y
If yes, facility nos/no mortality per facility/no stock per facility/reason:	S0 stock week 41 increased from 6000/week to 11248/week. Following week dropped back down to 6270/week - Saprolegnia - site has been treating with formalin.	

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin by Scottish Sea Farms at their Knock hatchery on the Isle of Mull to treat fungus:

Case No:	2018-0481	Date of visit:	03/10/2018
Time spent on site:	5hrs	Main Inspector:	SAE
Site No:	FS0254	Site Name:	Knock
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

Recent (last 4 wks) disease problems? Y

If yes, detail:

5. Evidence of recent increased/atypical mortalities? Y

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

6. Any other peaks in mortality during period checked? Y

1. Recent treatments (last 4 wks)? Y

If yes, detail:

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)?

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin by [Marine Harvest's Laddie Wood salmon farm in Loch Garry](#):

Case No:	2018-0491	Date of visit:	08/10/2018
Time spent on site:	4 hrs	Main Inspector:	WJM
Site No:	FS1104	Site Name:	Laddie Wood, Loch Garry
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

1. Recent treatments (last 4 wks)? Y

If yes, detail:

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)?

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin by [The Scottish Salmon Company's Kinlochmoidart Hatchery](#):

Case No:	2018-0493	Date of visit:	09/10/2018
Time spent on site:	3 Hrs	Main Inspector:	WJM
Site No:	FS0146	Site Name:	Kinlochmoidart Hatchery
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Slight increased mortalities during week 39 put down to post vaccination. Levels still remained below reporting criteria and dropped back to normal levels following week.

Formalin flushed through a number of tanks (5,6,11,12) for costia

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	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)?	Formalin used only in tanks 5, 6, 11 & 12

A [Scottish Government Fish Health Inspectorate report in August 2018](#) detailed the use of Formalin at [Marine Harvest's Glenfinnan salmon farm in Loch Shiel](#):

Case No:	2018-0353	Date of visit:	20/08/2018
Time spent on site:	3 hours	Main Inspector:	JET
Site No:	FS0742	Site Name:	Glenfinnan
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Additional Case Information:

23/07/2018 vaccinations carried out (PD3)
 Post vaccination treatments of formalin and pyceze administered.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, T.M.S., Pyceze
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)?	Formalin, T.M.S.

A [Scottish Government Fish Health Inspectorate report in July 2018](#) detailed the use of Formalin "as biocide" at [Marine Harvest's Loch Lochy salmon farm](#):

Case No:	2018-0281	Date of visit:	03/07/2018
Time spent on site:	2 hours	Main Inspector:	AJW
Site No:	FS0150	Site Name:	Loch Lochy
Business No:	FB0119	Business Name:	Marne Harvest (Scotland) Ltd

Additional Case Information:

Morts currently 0.01% site wk. Looking for further input of 105,000 (41g) wk 6th August and 400,000 from Lochailort this week. Larger stock going off site 23rd July to Muck and Rum. Smaller stock remaining on until October 2018.

Dead fish on site incinerated

12th June; bath treatment formalin and pyceze, post transfer treatment in Q3 fish.

Formalin used as biocide but precautionary 500days applied.

Another [Scottish Government Fish Health Inspectorate report in July 2018](#) detailed the use of Formalin at [Marine Harvest's Lochailort Recirculation Hatchery](#):

Case No:	2018-0282	Date of visit:	03/07/2018
Time spent on site:	6 hours	Main Inspector:	AJW
Site No:	FST269	Site Name:	Lochailort Recirculation Hatchery
Business No:	FB0119	Business Name:	Marne Harvest (Scotland) Ltd

Additional Case Information:

20g fish being moved out to Lochy this week. 80g fish going to sea from next Monday - Eirisort and Muck.

Treatment for gill and gut fungus in fry unit Q1 parr destined for Lochy in October. Formalin and pyceze.

Treatments and Medicines Records

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	formalin and pyceze this week in fry unit for gill and gut health	
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)?	Formalin in Q1 Fry	

A [Scottish Government Fish Health Inspectorate report in April 2018](#) detailed the use of Formalin at [FAI Aquaculture's Aultbea fish farm](#):

Case No:	2018-0084	Date of visit:	18/04/2018
Time spent on site:	4 hours	Main Inspector:	JET
Site No:	FS0941	Site Name:	FAI Aultbea
Business No:	FB0439	Business Name:	FAI Aquaculture Ltd

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Branzil, Formalin, Pyceze
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)?	Branzil, Formalin

A [Scottish Government Fish Health Inspectorate report in March 2018](#) detailed the use of Formalin at The Scottish Salmon Company's Langass Hatchery:

Case No:	2018-0108	Date of visit:	27/03/2018
Time spent on site:	2 hours	Main Inspector:	ALW
Site No:	FS0643	Site Name:	Langass Hatchery
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Site used to produce company's Hebridean strain of fish. Broodstock transferred onto site in late spring. Produce eyed ova for production sites and future broodstock

Select 1,000 viable ova from each family for incubation in specially modified comphatch system (trays divided into smaller compartments). Each family is raised in a separate 1m tank. Numbers reduced to 500 at 10g, 250 at 30g and to final 100 per family prior to transfer to Loch Geireann. At this point the fish are weighed, length noted and individually tagged. The families are then mixed in cages at Loch Geireann.

The site is currently being upgraded with a new incubation and holding shed which will be stocked in the next 5-6 weeks. This new facility will have a dedicated incubation area (comphatch systems, buckets and zuger jars) and 200 1m tanks for on-growing. The tanks are fed by robot with a track above the tanks for the hoppers to move along. The current facility (88 1m tanks) will be dismantled. In addition the square tanks in the other building have been removed and replaced with six 5m tanks and two 4m tanks mainly for holding the broodstock.

Currently have one of the large tanks stocked with 147,000 first feeding fry as reserve fish if needed at another site. Also stripped some sea trout broodfish, but no site was available to grow the ova so the ova were culled.

Broodstock for 2018 and 2019 seasons currently at Treanay, but 2020 broodstock currently at Loch Geireann will transfer to Ormsary Broodstock Unit next month. In the future the site will receive green ova and milt from Hebridean broodstock held at Ormsary. Genetic testing will be undertaken to help improve the line.

Recently had gut fungus in a couple of tanks, but treated with formalin. Fish on site appeared healthy.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin

A [Scottish Government Fish Health Inspectorate report in February 2018](#) detailed the use of Formalin at Cooke Aquaculture's Furnace Hatchery on Loch Fyne:

Case No:	2018-0049	Date of visit:	27/02/2018
Time spent on site:	2.5 hours	Main Inspector:	JET
Site No:	FS0339	Site Name:	Furnace (FW)
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, 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)?	Formalin, T.M.S.

[2017:](#)

A [Scottish Government Fish Health Inspectorate report in December 2017](#) detailed the use of Formalin at Landcatch's Ormsary Smolt Unit in Argyll:

Case No:	2017-0620	Date of visit:	13/12/2017
Time spent on site:	1 hour	Main Inspector:	AJW
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Additional Case Information:

Fish going from E19. Not vaccinated. Finished vaccinating other fish last week. Some fin rot and fungus in vaccinated fish treated with formalin. E19 no fungus issues and not treated

Site morts 1/12/17- 13/12/17; 1054, 0.08% attributed to fungus, HSS and post vaccination.

A [Scottish Government Fish Health Inspectorate report in November 2017](#) detailed the use of Formalin at [Marine Harvest's salmon farm in Loch Lochy in Lochaber](#):

Case No:	2017-0560	Date of visit:	29/11/2017
Time spent on site:	5 hours	Main Inspector:	JET
Site No:	FS0150	Site Name:	Loch Lochy
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

2017 Q4 production, fish stocked May 2017 - October 2017. Fish affected by fungus throughout cycle, weekly mortality between 1000-3000 (0.1% - 0.2%). A number of fish in cages 25 and 26 (Finfish stock) had visible lesions, however the fish were very active and deep in the water column and so were unable to be caught for further examination.

Recent (last 4 wks) disease problems?	<input type="checkbox"/> Y	Any escapes (since last visit)?	<input type="checkbox"/> N
If yes, detail:	RTFS detected in Finfish Hatchery stock (November 2018). Treated with formalin and pyceze.		

[RTFS = Rainbow Trout Fry Syndrome which is "[increasingly causing problems in Atlantic salmon](#)"]

6. Any other peaks in mortality during period checked?	Y
w/b 16/10/2017 4227 (0.9%) attributed to fungus, pox virus and smolting. Stock all sent out to sea by 30/10/2017. Pre-transfer health check carried out, showed stock positive for salmon pox, branchiomonas and Flavobacterium psychrophilum, mortality levels relatively low and fish in acceptable health for transfer.	

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, T.M.S., Pyceze
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)?	Formalin, T.M.S.

A [Scottish Government Fish Health Inspectorate report in November 2017](#) detailed the use of Formalin at [Scottish Sea Farms' salmon farm in Loch Ba on the Isle of Mull](#):

Case No:	2017-0549	Date of visit:	07/11/2017
Time spent on site:	2 hours	Main Inspector:	JET
Site No:	FS0429	Site Name:	Loch Ba
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

Additional Case Information:

Site has been reduced to 4 cages (16m2)
 Dead fish waste ensiled at Knock hatchery facility and collected for disposal
 Prophylactic formalin and pyceze treatments carried out 2 days after each stocking during October 2017

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Marine Harvest's Loch Ness salmon farm](#):

Case No:	2017-0436	Date of visit:	09/10/2017
Time spent on site:	3.5 hrs	Main Inspector:	ASM
Site No:	FS0434	Site Name:	Loch Ness
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin, Pyceze

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Cooke Aquaculture's Sallachy salmon farm](#) (certified by the Soil Association as "organic"):

Case No:	2017-0443	Date of visit:	24/10/2017
Time spent on site:	2 hours	Main Inspector:	JET
Site No:	FS0887	Site Name:	Sallachy Site
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

Additional Case Information:

Organic site
 Fish became affected by fungal infection (sapronelegia) post grading w/b 25/09/2017. Unable to treat with Pyceze due to Soil Association objection (Organic site status).
 Treated with formalin: Cages 1-3 20/10/17, cages 4-6 21/10/17, cages 7-8 22/10/17, cages 9-10 23/10/17. Approved by Soil Association. Further formalin treatment planned for 25/10/17.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Cooke Aquaculture's Cliff salmon farm in Shetland](#):

Case No:	2017-0460	Date of visit:	03/10/2017
Time spent on site:	2 hrs	Main Inspector:	WJM
Site No:	FS1095	Site Name:	Cliff Site
Business No:	FB0095	Business Name:	Cooke Aquaculture Scotland Ltd

Recent (last 4 wks) disease problems?	<input type="checkbox"/> Y	Any escapes (si
If yes, detail:	Saprolegnia like skin lesions, most likely secondary to fungal infection	

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Scottish Sea Farms' Loch Frisa salmon farm on the Isle of Mull](#):

Case No:	2017-0456	Date of visit:	10/10/2017
Time spent on site:	2h	Main Inspector:	DJT
Site No:	fs0428	Site Name:	Loch Frisa
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at Scottish Sea Farms' [PRV-infected](#) Knock salmon farm on the Isle of Mull:

Case No:	2017-0455	Date of visit:	10/10/2017
Time spent on site:	5h	Main Inspector:	DJT
Site No:	fs0254	Site Name:	Knock
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

16 May 2017 testing for PRV on two tanks following positive results on sea site post transfer, PCR tests on site were positive for PRV but there was no clinical expression however fungus was evident these fish were culled out on site.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at Marine Harvest's Glenfinnan salmon farm in Loch Shiel:

Case No:	2017-0494	Date of visit:	23/10/2017
Time spent on site:	3.5 hours	Main Inspector:	ALW
Site No:	FS0742	Site Name:	Glenfinnan
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Additional Case Information:

Current stock due to go out to sea sites next month. Fish will be transferred to East Loch Tarbert, Gorsten, Marulaig, Skipport, Stulaigh and Torridon. Fish are transferred via lorry to Mallaig onto Wellboat.
 Site stocked with Q4 generation, but will produce Q3 and Q4 next year. Q3s will only be on site for approx 6 weeks.
 Fish were vaccinated on site with PD3 vaccine. Fish are treated with formalin and pyceze to control fungus. Accidental overdose in one cage during treatment with formalin for fungus due to human error (dosing pump not working correctly).
 Increase in mortality in cage 11 over a couple of weeks, but has reduced to expected levels now.

5. Evidence of recent increased/atypical mortalities?
 If yes, facility nos/no mortality per facility/no stock per facility/reason:
 P11 / 1,343 / 75,000 / overdose during formalin/pyceze treatment.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Marine Harvest's salmon farm in Loch Arkaig](#):

Case No:	2017-0495	Date of visit:	24/10/2017
Time spent on site:	4.5 hours	Main Inspector:	ALW
Site No:	FS0649	Site Name:	Loch Arkaig
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Additional Case Information:

Fish from Inverpollly and Lochailort Recirc Unit. Fish probably going out to sea sites in Loch Linnhe, but not certain. No longer holding fish for River Lochy Association.
 Currently grading and vaccinating with Winvil 3 vaccine. Started post vaccination treatments with formalin and pyceze to prevent fungus. Have four mobile pens to move fish around site.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, Pyceze
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)?	
If other, detail:	Formalin

A [Scottish Government Fish Health Inspectorate report in July 2017](#) detailed the use of Formalin at [The Scottish Salmon Company's Russel Burn Hatchery on Loch Kishorn](#):

Case No:	2017-0315	Date of visit:	28/07/2017
Time spent on site:	0	Main Inspector:	PMM
Site No:	FS0500	Site Name:	Russel Burn
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Mortalities post vaccination, formalin treatment conducted and numbers dropped to normal levels.

Case No:	2017-0315	Site No:	FS0500	Date of visit:	28/07/2017
----------	-----------	----------	--------	----------------	------------

Start date:	End date: (if applicable)	Size of fish:	Average weight of affected population:	Species:	Yearclass:	Timescale	Mortality rate recorded(%)	Explained/unexplained:	If explained, select reason(s):
17/07/2017	27/07/2017	5g to smolting	40g	SAL	2017 presmolt	Weekly	4.42	Explained	Fungus

Total mortality during event (if available):	Additional information (e.g. action taken by company):	Action taken by FHI (include case no where applicable):
40,873	Mortality event attributed to fungus post vaccination. Affected stock were treated with formalin and numbers have dropped.	No further action required. Mortalities dropping to normal levels post treatment.

Fish Health Inspectorate 'Case Information' for 2013-2019 (including details of fish farms using Formalin) is available [online here](#)



Scottish Ministers: scottish.ministers@gov.scot
Scottish Environment Protection Agency: terry.ahearn@sepa.org.uk
Veterinary Medicines Directorate: postmaster@vmd.defra.gsi.gov.uk

26 June 2019

Public Register of ALL toxic chemical use on Scottish salmon farms & Immediate Ban on Carcinogenic Formaldehyde (Formalin)

Scottish Salmon Watch asks for inter-governmental co-operation to establish a public register of ALL toxic chemicals used on Scottish salmon farms.

As far as we understand it, only data detailing use of the sea lice chemicals Azamethiphos, Cypermethrin, Deltamethrin, Emamectin Benzoate and Teflubenzuron is [published via the Scotland's Aquaculture web-site](#) (and even here the use of Azamethiphos and Deltamethrin via well boats is [understand to be unreported](#) although we believe this anomaly may soon be rectified).

Data on the use of [Hydrogen Peroxide](#) (which has [sky-rocketed over the last decade](#) - along with the [use of sea lice chemicals](#)), [Antibiotics](#) and other toxic chemicals such as the carcinogenic [Formaldehyde \(Formalin\)](#) is not routinely published except [via Freedom of Information](#).

The [confusion](#) regarding the use of [Formaldehyde \(Formalin\)](#) as [either a biocide or prescribed by a veterinarian via the 'Cascade'](#) illustrates the need for clarity in reporting and the urgent need for a public register.

The use of [Formaldehyde \(Formalin\)](#) by salmon farms in Scotland is an interesting case study which warrants further investigation.

Documents disclosed via Freedom of Information reveal that 184 fish farms are permitted to use and discharge the [highly toxic poison](#) and [carcinogenic chemical Formaldehyde \(Formalin\)](#). According to [data released by the Scottish Environment Protection Agency \(SEPA\) via F0190275](#), Marine Harvest (since 1 January 2019 [re-named as Mowi](#)) was the only company to officially report the use of Formaldehyde to SEPA.

Download the documents via:

- [F0190275 EIR Response - R](#)
- [F0190275 ELMS - R](#)
- [F0190275 sites](#)
- [F0190275-Formaldehyde](#)

A [letter from SEPA dated 11 April 2019](#) includes:

Response

[1] Please refer to the enclosed spreadsheet which details the use of Formaldehyde provided in quarterly returns to SEPA since January 2017.

[2] SEPA's consultations page (<https://www.sepa.org.uk/regulations/consultations/>) identifies that CAR/L/1008962 Loch Garry, CAR/L/1008960 Loch Shiel and CAR/L/1001886 Camus na Mult, Loch Ness are the only advertised applications for freshwater fish farms which fall within the time period of the request. We confirm that SEPA did not receive any objections regarding the use of Formalin in response to the advertisement of these applications. Regulation 10(4)(a) of the EIRs applies;

(4) *A Scottish public authority may refuse to make environmental information available to the extent that:-*

(a) *it does not hold that information when an applicant's request is received.*

The exception in regulation 10(4)(a) is subject to the public interest test in regulation 10(1)(b) of the EIRs. As SEPA does not hold the information in question there is no conceivable public interest in requiring that the information be made available.

Further to the response provided above, to provide information in relation to complaints and concerns regarding the use of Formalin on salmon farms and hatcheries we have conducted a search of SEPA's Environmental Licence Management System (ELMS) for any complaints which refer to Formalin or Formaldehyde. We have found one event that relates to a freshwater salmon farm. Please refer to the attached document, "F0190275 – ELMS R".

The information released with this response will be placed into the public domain. Therefore we have redacted some personal information and other information which may lead to the identification of individuals. We have done this under the terms of regulations 11(1) and 11(2) of the EIRs. The exceptions in regulation 11 regulate the relationship between the EIRs, the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 (the DPA 2018). In this instance, the exception is absolute and we have not applied the Public Interest Test.

[3] In relation to information on discharges of Formalin, wastewater treatment of Formalin, environmental impacts and any mitigation strategies to deal with the environmental impacts of Formalin use. Please refer to the attached list of fish farm licences that may permit the use of formalin, detailing 184 sites.

In accordance with Regulation 6(1)(b) of the EIRs we advise that this information is publicly available and easily accessible. We advise that copies of licences are available from SEPA's Registry. <https://www.sepa.org.uk/contact/registry/>

Each licence details the treatment data at each site (where there is any). In addition information relating to any mitigation strategies that may be employed at sites that have a licence to use formalin, where held would also be held within the individual licences.

An Excel spreadsheet ([F0190275 ELMS - R](#)) details a complaint in November 2018 filed against the use of Formaldehyde by a fish farm in Loch Awe:

ACTION	ACTIVITY	CATCHMENT	GEOGRAPHICAL_LOCAL_AUTHORITY	LOCATION_DESCRIPTOR
30/11/2018 [email address removed] via SCC: [personal details removed] a freshwater Salmon farm rearing smolts, the loch is approx 1 mile long and a few hundred yards wide, over the last 2 weeks the farmers have taken around 20 blue 40l drums of formaldehyde out to the 5 cages to treat the fish,[personal details removed]I am concerned that this chemical could be contaminating our air and water supply, [personal details removed] there is a strong smell blowing over from the cages a mixture of dead fish and formaldehyde, could this be of any threat to us?03/12/2018 [Name removed] - [email address removed] :I am emailing in response to your enquiry last Friday and apologise we have not responded sooner. We regulate fish farms with respect to discharge to the water environment and if you can give us more detail in terms of the fish farm site, we can investigate your complaint. However in terms of the health concerns you have raised, I recommend you contact environmental health at Argyll and Bute council. Their number is 01546 605519 or the main switch line is 01546 605522.23.12.2018 [Name removed] - no update and probably primarily a matter for environmental health. No further SEPA action required.	Waste - Unlicensed	River Awe	Argyll & Bute	Braevallich Fish Farm, Loch Awe, Dalmally

An Excel spreadsheet ([F0190275 sites](#)) details 184 fish farms with a licence to use Formalin (Formaldehyde) - including:

Site Name	Licence Number
ALLT MOR FISH FARM, CLACHAN	CAR/L/1000307
Allt Mor Hatchery abstraction	CAR/L/1039410
Amhuinnsuidhe Hatchery	CAR/L/1002200
Ardessie	CAR/L/1002039
Ardtaraig Hatchery, Clachaig, Dunoon	CAR/L/1003707
Ardtornish	CAR/L/1003993
Barvas Hatchery, North Uist	CAR/L/1002202
BRAEVALLICH FISH FARM, LOCH AWE, DALMALLY	CAR/L/1000232
Burnhouse Hatchery, Stromness	CAR/L/1001980
Cairndow	CAR/L/1000559
Camus nam Mult FCFF, Loch Ness	CAR/L/1001886
CARNASSERIE MILL FF	CAR/L/1000260
Clachan Hatchery, TE to Loch Carnan, Uist	CAR/L/1002193
Clachbreac hatchery, Ormsary, Lochgilphead	CAR/L/1003314
Cleigh Mill Hatchery	CAR/L/1000251
College Mill Fish Farm	CAR/L/1001101
Corrie Mhor, Russel Burn Salmon Farm, Kishorn	CAR/L/1002995
Couldoran Hatchery, Kishorn	CAR/L/1002178
Dougarie Hatchery,Dougarie,Isle of Arran	CAR/R/1013824
Drimsallie Mill Hatchery	CAR/S/1095018
Duartmore (North side)	CAR/L/1003972
Duartmore (South side)	CAR/L/1002029

Site Name	Licence Number
Hollywood	CAR/L/1003582
Inchmore Hatchery, Glenmoriston	CAR/L/1003069
Inverailort Tank Fish Farm	CAR/L/1001937
Invergarry	CAR/L/1001913
INVERMALLIE FISH FARM, LOCH ARKAIG, LOCHAILORT	CAR/L/1002071
Inverpolly Hatchery	CAR/L/1002075
Kames Fish Farm Hatchery	CAR/L/1000827
KINLOCHMOIDART HATCHERY, KINLOCHMOIDART, LOC	CAR/L/1001840
Knock Hatchery (Southern Outfall)	CAR/L/1000245
LOCH BA FCFF, GRULINE, ISLE OF MULL	CAR/L/1000257
Loch Damh (North) FCFF, Shieldaig, Strathcarron	CAR/L/1003924
LOCHAILORT SMOLT UNIT	CAR/S/1003967
Quoys Hatchery	CAR/L/1004946
Scottish Sea Farms hatchery, BARCALDINE	CAR/L/1003509

Another Excel spreadsheet ([F0190275-Formaldehyde](#)) detailed 50704251 grams (50,704 kg or 50.7 tonnes) of Formaldehyde used by Marine Harvest (since 1 January 2019 [re-named as Mowi](#)) between May 2017 and September 2018 at their salmon farms in Glenfinnan, Invermallie (Loch Arkaig), Loch Lochy and Loch Garry:

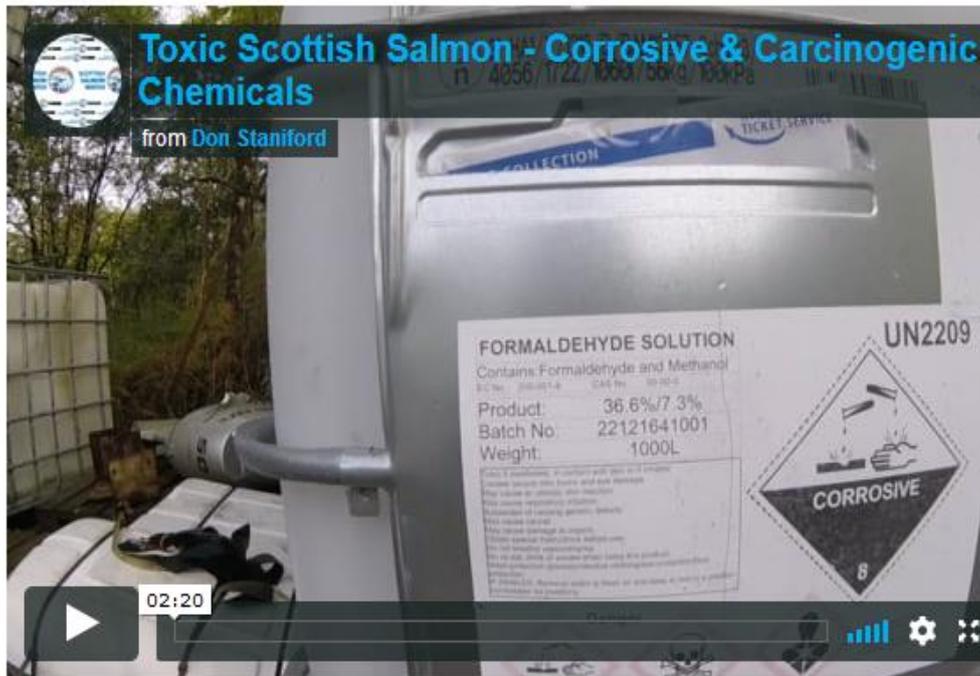
Site Name	Operator	Licence	Month	Formaldehyde (active ingredient in grams)
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Aug-17	356250
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Sep-17	1106250
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Oct-17	3226875
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Nov-17	2212500
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Dec-17	56250
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Jul-18	375000
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Aug-18	225000
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Nov-17	1200000
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Dec-17	1762500
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Jan-18	2325000
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Feb-18	2456250
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Mar-18	318750
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Sep-18	18750
Loch Garry	Marine Harvest (Scotland) Ltd	CAR/L/1008962	Jul-17	239063
Loch Garry	Marine Harvest (Scotland) Ltd	CAR/L/1008962	Aug-17	547688
Loch Garry	Marine Harvest (Scotland) Ltd	CAR/L/1008962	Sep-18	140625
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	May-17	75000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jun-17	918750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jul-17	2193750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Aug-17	4200000

Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Sep-17	2831250
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Oct-17	1725000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Nov-17	1218750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Dec-17	2525000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jan-18	3093750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Feb-18	3712500
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Mar-18	4443750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Apr-18	562500
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jun-18	637500
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jul-18	2231250
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Aug-18	1818750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Sep-18	1950000

Video footage taken by Scottish Salmon Watch in June 2019 [shows vats of Formaldehyde - marked "corrosive" and "danger" stashed outside The Scottish Salmon Company's Russel Burn Hatchery on the shore of Loch Kishorn](#) even though [The Scottish Salmon Company](#) did not report the use of any Formaldehyde in 2017 and 2018 and the Russel Burn Hatchery is not licensed by SEPA to use Formaldehyde.



In 2018, Scottish Salmon Watch published other videos showing [caches of toxic chemicals](#) including [vats of Formaldehyde at Kames Fish Farming near Kimelford](#) with a label warning "suspected of causing genetic defects" and "may cause cancer".



Scottish Salmon Watch's FOI request on Formaldehyde (Formalin) stemmed from an email received in March 2019 from a whistleblower at The Scottish Salmon Company:

Sent: 14 March 2019 13:55

To: Don Staniford

Subject: Re: FHI report on Kinlochmoidart Hatchery - ERM, Formalin, antibiotics & mortis

Yes be worth asking SNH in Fort William why Sepa is condoning dilute Formic acid being discharged into a sssi river straight from the container. They empty 25litres of formaldehyde straight into each fish tank without following the correct procedure which should be isolating the tank. There is 10 tanks in the flothrough which runs directly into the river! This is results in the dilute formic acid being flushed into the river killing various species in the river!

A report - "[The State of Scottish Salmon Farming in 2018](#)" - published by Scottish Salmon Watch in March 2019 detailed 80,000 mortalities at The Scottish Salmon Company's Russel Burn Hatchery in November 2018 with the use of Formalin specifically identified:

Summary:

Significant Health Events [Reported via FHI 'Case Information' in 2018](#)

- 80,000 morts at The Scottish Salmon Company's Russel Burn Hatchery in November 2018 due to fungus ("reportedly from vaccination") and "quality cull" (61,000 euthanized "as they were deformed or not feeding")

Here's details from the [Scottish Government's Fish Health Inspectorate report](#):

Case No:	2018-0628	Date of visit:	27/11/2018
Time spent on site:	4 hours	Main Inspector:	ASM
Site No:	FS0500	Site Name:	Russel Burn
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Ova and fry units being built at the moment. Due to be completed in June 2019. New shed being built and the site name changed. Reminded to contact FHI to change details.

Most of the old tanks will be replaced with new bigger ones.

Vaccination reportedly caused fungus on the site shortly before the inspection. The stress of the vaccination process is thought to have reduced immunity. This together with the fact that the smoltification is now brought on with in feed treatment rather than the salt being added to the water. This is meant that the fungal spores are not killed in the water. Salt has been ordered and will added to the water the week of the inspection.

All fish removed for VMD treated with TMS, Pyceze and Aquacen (Formalin) to combat fungus

Pre-transfer check (report not yet produced. Check conducted the day before inspection) made by company biologist and advised to move the fish to seawater. Fish will be moved in December 2018, 2 weeks post inspection.

Quality cull conducted in Nov of 4.4% (in 1 day) but not reported to MSS as it is labelled as a quality cull in the mortality record.

Recent (last 4 wks) disease problems?	Y	Any escapes (si
If yes, detail:	Fungus on site reportedly from vaccination (see additional comments)	

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):	80,100 fish due to quality cull and fungus.
5. Evidence of recent increased/atypical mortalities?	Y
If yes, facility nos/no mortality per facility/no stock per facility/reason:	61,000 euthanized in a 'quality cull' as they were deformed or not feeding, 19/11/18, in cage D7. All killed from the same cage. 4.4% in a week.
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, Pyceze

Read more via "[Disease-Ridden Scottish Salmon](#)"

Other reported uses of Formalin via the [Scottish Government's Fish Health Inspectorate 'Case Information'](#) included an "accidental overdose" at Marine Harvest's Glenfinnan salmon farm in Loch Shiel in October 2017 "due to human error" leading to 1,343 dead fish and the use of Formalin at Cooke Aquaculture's "organic" salmon farm at Sallachy in Sutherland in 2017.

Formalin was also reported as used at [The Scottish Salmon Company's Russel Burn Hatchery](#) in July 2017 following fungus problems causing over 40,000 mortalities.

Here's a summary list of recent uses of Formaldehyde (Formalin):

February 2019 - Loch Duart's Duartmore hatchery in Sutherland
February 2019 - Landcatch's Ormsary Smolt Unit in Argyll
February 2019 - Kames Fish Farming salmon farm in Loch Tralaig in Argyll
January 2019 - Cooke Aquaculture's Ardtaraig Hatchery on Loch Striven in Argyll
January 2019 - Mowi's Inchmore Hatchery in Glenmoriston
November 2018 - Cooke Aquaculture's Yetts O'Muckart salmon farm in Clackmannanshire
November 2018 - Hebridean Smolts' Clachan Hatchery in Loch Carnan in South Uist
October 2018 - Landcatch's Ormsary Smolt Unit in Argyll
October 2018 - Scottish Sea Farms' Knock hatchery on the Isle of Mull
October 2018 - Marine Harvest's Laddie Wood salmon farm in Loch Garry in Lochaber
October 2018 - The Scottish Salmon Company's Kinlochmoidart Hatchery in Highland
August 2018 - Marine Harvest's Glenfinnan salmon farm in Loch Shiel in Lochaber
July 2018 - Marine Harvest's Loch Lochy salmon farm in Lochaber
July 2018 - Marine Harvest's Lochailort Recirculation Hatchery in Lochaber
April 2018 - FAI Aquaculture's Aultbea fish farm in Wester Ross
March 2018 - The Scottish Salmon Company's Langass Hatchery in North Uist
February 2018 - Cooke Aquaculture's Furnace Hatchery on Loch Fyne
December 2017 - Landcatch's Ormsary Smolt Unit in Argyll
November 2017 - Scottish Sea Farms' salmon farm in Loch Ba on the Isle of Mull
November 2017 - Marine Harvest's salmon farm in Loch Lochy in Lochaber
October 2017 - Marine Harvest's Loch Ness salmon farm in Highland
October 2017 - Cooke Aquaculture's "organic" salmon farm at Sallachy in Sutherland
October 2017 - Cooke Aquaculture's Cliff salmon farm in Shetland
October 2017 - Scottish Sea Farms' Loch Frisa salmon farm on the Isle of Mull
October 2017 - Scottish Sea Farms' Knock salmon farm on the Isle of Mull
October 2017 - Marine Harvest's Glenfinnan salmon farm in Loch Shiel in Lochaber
October 2017 - Marine Harvest's salmon farm in Loch Arkaig in Highland
July 2017 - The Scottish Salmon Company's Russel Burn Hatchery on Loch Kishorn

Here's more details [via the Scottish Government's Fish Health Inspectorate's 'Case Information'](#):

A [Scottish Government Fish Health Inspectorate report in February 2019](#) detailed the use of Formalin at [Loch Duart's Duartmore Hatchery](#):

Case No:	2019-0097	Date of visit:	20/02/2019
Time spent on site:	2 hours	Main Inspector:	
Site No:	FS0062	Site Name:	Duartmore Hatchery
Business No:	FB0398	Business Name:	Loch Duart Ltd

Additional Case Information:

Site inspected following receipt by APHA of a non site-specific welfare complaint regarding Loch Duart. Accompanied APHA vets on visit.

Ova are stripped at Geisgeil Tank Site and transferred to Ormsary Hatchery for fertilisation and incubation. Ova are brought back to Duartmore Hatchery for hatching. Site grows fish to 5g and then transferred to Duartmore for ongrowing.

Very few treatments administered per cycle - a couple of treatments with formalin for Costia, but looking at using artificial seawater for this in future.

Mortalities are transferred to Badcall office for uplift to Gray Composting.

Two more [Scottish Government Fish Health Inspectorate reports in February 2019](#) detailed the use of Formalin at Landcatch's Ormsary Smolt Unit "up to twice a week to prevent fungal infections":

Case No:	2019-0060	Date of visit:	25/02/2019
Time spent on site:	2.5 hours	Main Inspector:	
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

S0s brought onto site in January 2019.

Formalin prescribed and administered under CASCADE.

Case No:	2019-0061	Date of visit:	25/02/2019
Time spent on site:	1.5 hours	Main Inspector:	
Site No:	FS0681	Site Name:	Ormsary Hatchery
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Stock on site currently hatching.

Some post hatch mortalities observed, low mortality % no clinical signs observed.

Water treated with Formalin up to twice a week to prevent fungal infections.

Another [Scottish Government Fish Health Inspectorate report in February 2019](#) detailed the use of Formalin by [Kames Fish Farming salmon farm in Loch Traig](#):

Case No:	2019-0062	Date of visit:	26/02/2019
Time spent on site:	2.5 hours	Main Inspector:	
Site No:	FS0468	Site Name:	Loch Tralalg
Business No:	FB0134	Business Name:	Kames Fish Farming Ltd

All waste held at Kames Bay Pier, prior to being transported to Energen for disposal.

Fungus has been present on site during cycle, treated with formalin.

Another [Scottish Government Fish Health Inspectorate report in January 2019](#) detailed the use of Formalin by [Cooke Aquaculture's Ardtaraig Hatchery](#):

Case No:	2019-0018	Date of visit:	22/01/2019
Time spent on site:	6 hrs	Main Inspector:	WJM
Site No:	FS0648	Site Name:	Ardtaraig Hatchery
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Formalin	
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)?	Formalin	

Another [Scottish Government Fish Health Inspectorate report in January 2019](#) cited Formalin at Mowi's [Inchmore Hatchery](#):

Case No:	2019-0037	Date of visit:	04/02/2019
Time spent on site:	5.5 hours	Main Inspector:	
Site No:	FS0226	Site Name:	Inchmore
Business No:	FB0119	Business Name:	Mowi Scotland Ltd

All ova in from Norway - Mowi

import from 19/12/18 - fish split with Finfish. Electronic cert detailed Inverpolly has destination. Consignment was split at Aberdeen airport. Finfish have original copy. Imports team to contact Mowi.

Morts peak; 0.46%/site/week - post vaccine weeks 5 and 6.

Withdrawal for TMS, formalin, pyceze weeks 5 and 6 post vaccine use.

A [Scottish Government Fish Health Inspectorate report in November 2018](#) reported Formalin use at [Cooke Aquaculture's Yetts O'Muckart salmon farm in Clackmannanshire](#):

Case No:	2018-0608	Date of visit:	29/11/2018
Time spent on site:	2.5 hours	Main Inspector:	KAS
Site No:	FS0371	Site Name:	Yetts O' Muckart
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

Additional Case Information:

Stocks on site all appeared healthy. Manager stated this has being the best crop of fish through the site so far - fish all from Holmwrangle and will be from Holmwrangle again next year.
 Fish will be going off as 2019 s1's in March/April to Ness of Copister
 Also stocked in July with s0's from cairndow following problems with water at Cairndow, these fish all went out in October to Stead of Aithness
 Vaccinating over last 2 weeks with PD7. First batch vaccinated just about back to taking full feed.
 Treated weekly with prophylactic formalin plus post vac formalin dosage at the moment.

6. Any other peaks in mortality during period checked?	Y
If yes, detail:	lesions late August, early Sept - controlled with pyceze and formalin treatment. Mortalities 50-100/tank peak at 500/tank but returned to normal within 2 weeks. No antibiotics used.
7. Have increased (unexplained) mortalities been reported to vet or FHI?	Y
If yes, detail action:	FVG - significant flank lesions

1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in November 2018](#) reported Formalin use at [Hebridean Smolts' Clachan Hatchery in Loch Carnan in South Uist](#):

Case No:	2018-0611	Date of visit:	27/11/2018
Time spent on site:	3 hours	Main Inspector:	JET
Site No:	FS0398	Site Name:	Clachan Hatchery
Business No:	FB0444	Business Name:	Hebridean Smolts Ltd

Additional Case Information:

Water very dark in colour, difficult to observe fish below surface.
 Small number of fish with lesions observed in tanks 5 and 6, very active in water and unable to be caught with hand nets.
 Fish sampled for VMD appeared healthy
 Stock on site hatched at Mingarry Hatchery, then on-grown at Loch Na Shibaidh Mhor and Loch A'Clachan. Moved to Clachan Hatchery for grading and vaccination. Due to move fish to sea sites March - April 2019.
 Formalin treatment prescribed by vet via cascade.

Recent (last 4 wks) disease problems?	Y	Any escapes (since last visit)?	N
If yes, detail:	Some fish with lesions on site, low mortality, treated with Formalin and Pyceze, samples to be sent to FVG for further analysis.		

1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, T.M.S., Pyceze
If other, detail:	
2. Medicines records available for inspection?	Y
3. Are records complete and correctly entered?	N
4. Are fish in a withdrawal period?	Y
5. If yes, what treatment(s)?	Formalin, T.M.S.

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin at Landcatch's Ormsary Smolt Unit:

Case No:	2018-0437	Date of visit:	23/10/2018
Time spent on site:	1 hour	Main Inspector:	JET
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Recent (last 4 wks) disease problems? Y Any escape?

If yes, detail:

5. Evidence of recent increased/atypical mortalities? Y

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

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin by Scottish Sea Farms at their Knock hatchery on the Isle of Mull to treat fungus:

Case No:	2018-0481	Date of visit:	03/10/2018
Time spent on site:	5hrs	Main Inspector:	SAE
Site No:	FS0254	Site Name:	Knock
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

Recent (last 4 wks) disease problems? Y

If yes, detail:

5. Evidence of recent increased/atypical mortalities? Y

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

6. Any other peaks in mortality during period checked? Y

1. Recent treatments (last 4 wks)? Y

If yes, detail:

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)?

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin by [Marine Harvest's Laddie Wood salmon farm in Loch Garry](#):

Case No:	2018-0491	Date of visit:	08/10/2018
Time spent on site:	4 hrs	Main Inspector:	WJM
Site No:	FS1104	Site Name:	Laddie Wood, Loch Garry
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

1. Recent treatments (last 4 wks)?	<input type="checkbox"/>	Y
If yes, detail:	Formalin, T.M.S., Pyceze	
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)?	Formalin, T.M.S.	

A [Scottish Government Fish Health Inspectorate report in October 2018](#) detailed the use of Formalin by [The Scottish Salmon Company's Kinlochmoidart Hatchery](#):

Case No:	2018-0493	Date of visit:	09/10/2018
Time spent on site:	3 Hrs	Main Inspector:	WJM
Site No:	FS0146	Site Name:	Kinlochmoidart Hatchery
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Slight increased mortalities during week 39 put down to post vaccination. Levels still remained below reporting criteria and dropped back to normal levels following week.

Formalin flushed through a number of tanks (5,6,11,12) for costia

Treatments and Medicines Records		
1. Recent treatments (last 4 wks)?	<input type="checkbox"/>	Y
If yes, detail:	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)?	Formalin used only in tanks 5, 6, 11 & 12	

A [Scottish Government Fish Health Inspectorate report in August 2018](#) detailed the use of Formalin at [Marine Harvest's Glenfinnan salmon farm in Loch Shiel](#):

Case No:	2018-0353	Date of visit:	20/08/2018
Time spent on site:	3 hours	Main Inspector:	JET
Site No:	FS0742	Site Name:	Glenfinnan
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Additional Case Information:

23/07/2018 vaccinations carried out (PD3)
 Post vaccination treatments of formalin and pyceze administered.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, T.M.S., Pyceze
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)?	Formalin, T.M.S.

A [Scottish Government Fish Health Inspectorate report in July 2018](#) detailed the use of Formalin "as biocide" at [Marine Harvest's Loch Lochy salmon farm](#):

Case No:	2018-0281	Date of visit:	03/07/2018
Time spent on site:	2 hours	Main Inspector:	AJW
Site No:	FS0150	Site Name:	Loch Lochy
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Additional Case Information:

Morts currently 0.01% site wk. Looking for further input of 105,000 (41g) wk 6th August and 400,000 from Lochailort this week. Larger stock going off site 23rd July to Muck and Rum. Smaller stock remaining on until October 2018.

Dead fish on site incinerated

12th June; bath treatment formalin and pyceze, post transfer treatment in Q3 fish.

Formalin used as biocide but precautionary 500days applied.

Another [Scottish Government Fish Health Inspectorate report in July 2018](#) detailed the use of Formalin at [Marine Harvest's Lochailort Recirculation Hatchery](#):

Case No:	2018-0282	Date of visit:	03/07/2018
Time spent on site:	6 hours	Main Inspector:	AJW
Site No:	FS1269	Site Name:	Lochailort Recirculation Hatchery
Business No:	FB0119	Business Name:	Marne Harvest (Scotland) Ltd

Additional Case Information:

20g fish being moved out to Lochy this week. 80g fish going to sea from next Monday - Eirisort and Muck.

Treatment for gill and gut fungus in fry unit Q1 parr destined for Lochy in October. Formalin and pyceze.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	formalin and pyceze this week in fry unit for gill and gut health
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)?	Formalin in Q1 Fry

A [Scottish Government Fish Health Inspectorate report in April 2018](#) detailed the use of Formalin at [FAI Aquaculture's Aultbea fish farm](#):

Case No:	2018-0084	Date of visit:	18/04/2018
Time spent on site:	4 hours	Main Inspector:	JET
Site No:	FS0941	Site Name:	FAI Aultbea
Business No:	FB0439	Business Name:	FAI Aquaculture Ltd

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Branzil, Formalin, Pyceze
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)?	Branzil, Formalin

A [Scottish Government Fish Health Inspectorate report in March 2018](#) detailed the use of Formalin at The Scottish Salmon Company's Langass Hatchery:

Case No:	2018-0108	Date of visit:	27/03/2018
Time spent on site:	2 hours	Main Inspector:	ALW
Site No:	FS0643	Site Name:	Langass Hatchery
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Site used to produce company's Hebridean strain of fish. Broodstock transferred onto site in late spring. Produce eyed ova for production sites and future broodstock

Select 1,000 viable ova from each family for incubation in specially modified comphatch system (trays divided into smaller compartments). Each family is raised in a separate 1m tank. Numbers reduced to 500 at 10g, 250 at 30g and to final 100 per family prior to transfer to Loch Geireann. At this point the fish are weighed, length noted and individually tagged. The families are then mixed in cages at Loch Geireann.

The site is currently being upgraded with a new incubation and holding shed which will be stocked in the next 5-6 weeks. This new facility will have a dedicated incubation area (comphatch systems, buckets and zuger jars) and 200 1m tanks for on-growing. The tanks are fed by robot with a track above the tanks for the hoppers to move along. The current facility (88 1m tanks) will be dismantled. In addition the square tanks in the other building have been removed and replaced with six 5m tanks and two 4m tanks mainly for holding the broodstock.

Currently have one of the large tanks stocked with 147,000 first feeding fry as reserve fish if needed at another site. Also stripped some sea trout broodfish, but no site was available to grow the ova so the ova were culled.

Broodstock for 2018 and 2019 seasons currently at Treanay, but 2020 broodstock currently at Loch Geireann will transfer to Ormsary Broodstock Unit next month. In the future the site will receive green ova and milt from Hebridean broodstock held at Ormsary. Genetic testing will be undertaken to help improve the line.

Recently had gut fungus in a couple of tanks, but treated with formalin. Fish on site appeared healthy.

Treatments and Medicines Records

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Formalin	

A [Scottish Government Fish Health Inspectorate report in February 2018](#) detailed the use of Formalin at Cooke Aquaculture's Furnace Hatchery on Loch Fyne:

Case No:	2018-0049	Date of visit:	27/02/2018
Time spent on site:	2.5 hours	Main Inspector:	JET
Site No:	FS0339	Site Name:	Furnace (FW)
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

Treatments and Medicines Records

1. Recent treatments (last 4 wks)?		Y
If yes, detail:	Formalin, 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)?	Formalin, T.M.S.	

A [Scottish Government Fish Health Inspectorate report in December 2017](#) detailed the use of Formalin at Landcatch's Ormsary Smolt Unit in Argyll:

Case No:	2017-0620	Date of visit:	13/12/2017
Time spent on site:	1 hour	Main Inspector:	AJW
Site No:	FS0575	Site Name:	Ormsary Smolt Unit
Business No:	FB0061	Business Name:	Landcatch Natural Selection Ltd

Additional Case Information:

Fish going from E19. Not vaccinated. Finished vaccinating other fish last week. Some fin rot and fungus in vaccinated fish treated with formalin. E19 no fungus issues and not treated

Site morts 1/12/17- 13/12/17; 1054, 0.08% attributed to fungus, HSS and post vaccination.

A [Scottish Government Fish Health Inspectorate report in November 2017](#) detailed the use of Formalin at [Marine Harvest's salmon farm in Loch Lochy in Lochaber](#):

Case No:	2017-0560	Date of visit:	29/11/2017
Time spent on site:	5 hours	Main Inspector:	JET
Site No:	FS0150	Site Name:	Loch Lochy
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

2017 Q4 production, fish stocked May 2017 - October 2017. Fish affected by fungus throughout cycle, weekly mortality between 1000-3000 (0.1% - 0.2%).

A number of fish in cages 25 and 26 (Finfish stock) had visible lesions, however the fish were very active and deep in the water column and so were unable to be caught for further examination.

Recent (last 4 wks) disease problems?	<input checked="" type="checkbox"/>	Any escapes (since last visit)?	<input type="checkbox"/>
If yes, detail:	RTFS detected in Finfish Hatchery stock (November 2018). Treated with formalin and pyceze.		

[RTFS = Rainbow Trout Fry Syndrome which is "[increasingly causing problems in Atlantic salmon](#)"]

6. Any other peaks in mortality during period checked?	<input type="checkbox"/>
w/b 16/10/2017 4227 (0.9%) attributed to fungus, pox virus and smolting. Stock all sent out to sea by 30/10/2017. Pre-transfer health check carried out, showed stock positive for salmon pox, branchiomonas and Flavobacterium psychrophilum, mortality levels relatively low and fish in acceptable health for transfer.	

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/>
If yes, detail:	Formalin, T.M.S., Pyceze
If other, detail:	
2. Medicines records available for inspection?	<input type="checkbox"/>
3. Are records complete and correctly entered?	<input type="checkbox"/>
4. Are fish in a withdrawal period?	<input type="checkbox"/>
5. If yes, what treatment(s)?	Formalin, T.M.S.

A [Scottish Government Fish Health Inspectorate report in November 2017](#) detailed the use of Formalin at [Scottish Sea Farms' salmon farm in Loch Ba on the Isle of Mull](#):

Case No:	2017-0549	Date of visit:	07/11/2017
Time spent on site:	2 hours	Main Inspector:	JET
Site No:	FS0429	Site Name:	Loch Ba
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

Additional Case Information:

Site has been reduced to 4 cages (16m2)
 Dead fish waste ensiled at Knock hatchery facility and collected for disposal
 Prophylactic formalin and pyceze treatments carried out 2 days after each stocking during October 2017

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Marine Harvest's Loch Ness salmon farm](#):

Case No:	2017-0436	Date of visit:	09/10/2017
Time spent on site:	3.5 hrs	Main Inspector:	ASM
Site No:	FS0434	Site Name:	Loch Ness
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin, Pyceze

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Cooke Aquaculture's Sallachy salmon farm](#) (certified by the Soil Association as "organic"):

Case No:	2017-0443	Date of visit:	24/10/2017
Time spent on site:	2 hours	Main Inspector:	JET
Site No:	FS0887	Site Name:	Sallachy Site
Business No:	FB0235	Business Name:	Cooke Aquaculture (Freshwater) Ltd

Additional Case Information:

Organic site
 Fish became affected by fungal infection (sapronelegia) post grading w/b 25/09/2017. Unable to treat with Pyceze due to Soil Association objection (Organic site status).
 Treated with formalin: Cages 1-3 20/10/17, cages 4-6 21/10/17, cages 7-8 22/10/17, cages 9-10 23/10/17. Approved by Soil Association. Further formalin treatment planned for 25/10/17.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Cooke Aquaculture's Cliff salmon farm in Shetland](#):

Case No:	2017-0460	Date of visit:	03/10/2017
Time spent on site:	2 hrs	Main Inspector:	WJM
Site No:	FS1095	Site Name:	Cliff Site
Business No:	FB0095	Business Name:	Cooke Aquaculture Scotland Ltd

Recent (last 4 wks) disease problems?	<input type="checkbox"/> Y	Any escapes (si
If yes, detail:	Saprolegnia like skin lesions, most likely secondary to fungal infection	

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Scottish Sea Farms' Loch Frisa salmon farm on the Isle of Mull](#):

Case No:	2017-0456	Date of visit:	10/10/2017
Time spent on site:	2h	Main Inspector:	DJT
Site No:	fs0428	Site Name:	Loch Frisa
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at Scottish Sea Farms' [PRV-infected](#) Knock salmon farm on the Isle of Mull:

Case No:	2017-0455	Date of visit:	10/10/2017
Time spent on site:	5h	Main Inspector:	DJT
Site No:	fs0254	Site Name:	Knock
Business No:	FB0125	Business Name:	Scottish Sea Farms Ltd

16 May 2017 testing for PRV on two tanks following positive results on sea site post transfer, PCR tests on site were positive for PRV but there was no clinical expression however fungus was evident these fish were culled out on site.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at Marine Harvest's Glenfinnan salmon farm in Loch Shiel:

Case No:	2017-0494	Date of visit:	23/10/2017
Time spent on site:	3.5 hours	Main Inspector:	ALW
Site No:	FS0742	Site Name:	Glenfinnan
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Additional Case Information:

Current stock due to go out to sea sites next month. Fish will be transferred to East Loch Tarbert, Gorsten, Marulaig, Skipport, Stulaigh and Torridon. Fish are transferred via lorry to Mallaig onto Wellboat.
 Site stocked with Q4 generation, but will produce Q3 and Q4 next year. Q3s will only be on site for approx 6 weeks.
 Fish were vaccinated on site with PD3 vaccine. Fish are treated with formalin and pyceze to control fungus. Accidental overdose in one cage during treatment with formalin for fungus due to human error (dosing pump not working correctly).
 Increase in mortality in cage 11 over a couple of weeks, but has reduced to expected levels now.

5. Evidence of recent increased/atypical mortalities?
If yes, facility nos/no mortality per facility/no stock per facility/reason:
P11 / 1,343 / 75,000 / overdose during formalin/pyceze treatment.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	<input type="checkbox"/> Y
If yes, detail:	Formalin, Pyceze
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)?	Formalin

A [Scottish Government Fish Health Inspectorate report in October 2017](#) detailed the use of Formalin at [Marine Harvest's salmon farm in Loch Arkaig](#):

Case No:	2017-0495	Date of visit:	24/10/2017
Time spent on site:	4.5 hours	Main Inspector:	ALW
Site No:	FS0649	Site Name:	Loch Arkaig
Business No:	FB0119	Business Name:	Marine Harvest (Scotland) Ltd

Additional Case Information:

Fish from Inverpolly and Lochailort Recirc Unit. Fish probably going out to sea sites in Loch Linnhe, but not certain. No longer holding fish for River Lochy Association. Currently grading and vaccinating with Winvil 3 vaccine. Started post vaccination treatments with formalin and pyceze to prevent fungus. Have four mobile pens to move fish around site.

Treatments and Medicines Records	
1. Recent treatments (last 4 wks)?	Y
If yes, detail:	Formalin, Pyceze
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)?	
If other, detail:	Formalin

A [Scottish Government Fish Health Inspectorate report in July 2017](#) detailed the use of Formalin at [The Scottish Salmon Company's Russel Burn Hatchery on Loch Kishorn](#):

Case No:	2017-0315	Date of visit:	28/07/2017
Time spent on site:	0	Main Inspector:	PMM
Site No:	FS0500	Site Name:	Russel Burn
Business No:	FB0169	Business Name:	The Scottish Salmon Company

Additional Case Information:

Mortalities post vaccination, formalin treatment conducted and numbers dropped to normal levels.

Case No:	2017-0315	Site No:	FS0500	Date of visit:	28/07/2017				
Start date:	End date: (if applicable)	Size of fish:	Average weight of affected population:	Species:	Yearclass:	Timescale	Mortality rate recorded(%)	Explained/unexplained:	If explained, select reason(s):
17/07/2017	27/07/2017	5g to smolting	40g	SAL	2017 presmolt	Weekly	4.42	Explained	Fungus
Total mortality during event (if available):	Additional information (e.g. action taken by company):		Action taken by FHI (include case no where applicable):						
40,873	Mortality event attributed to fungus post vaccination. Affected stock were treated with formalin and numbers have dropped.		No further action required. Mortalities dropping to normal levels post treatment.						

Fish Health Inspectorate 'Case Information' for 2013-2019 (including details of fish farms using Formalin) is available [online here](#)

Why is this use of Formaldehyde (Formalin) not captured by SEPA's FOI reply to Scottish Salmon Watch?

Surely the Scottish Government together with the VMD and SEPA should report the use of Formaldehyde (Formalin) via a public register?

Finally, [in view of serious health concerns surrounding its carcinogenicity as well as welfare and environmental concerns](#), Scottish Salmon Watch calls for an immediate ban on the use of Formaldehyde (Formalin) on Scottish salmon farms.

Yours sincerely,

Don Staniford

[Director, Scottish Salmon Watch](#)