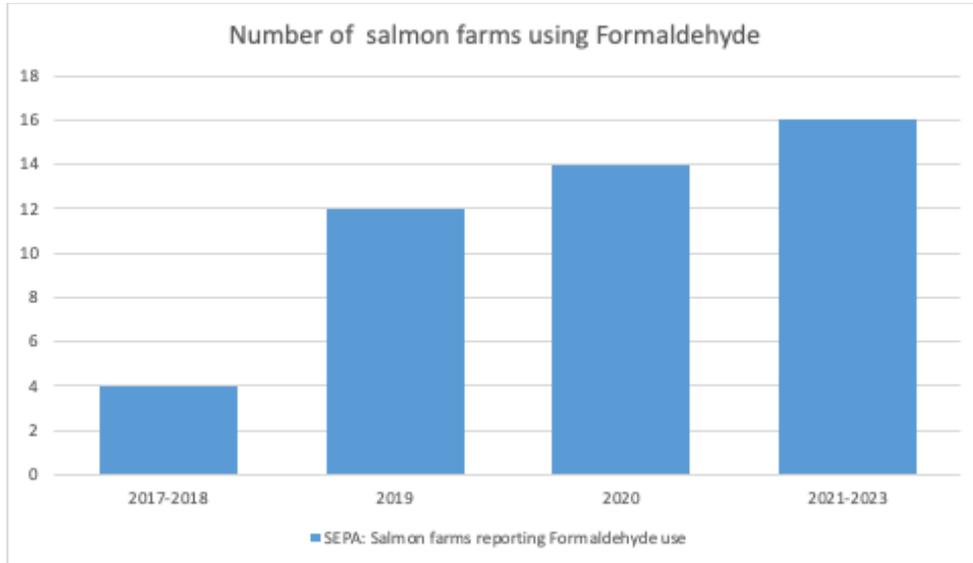


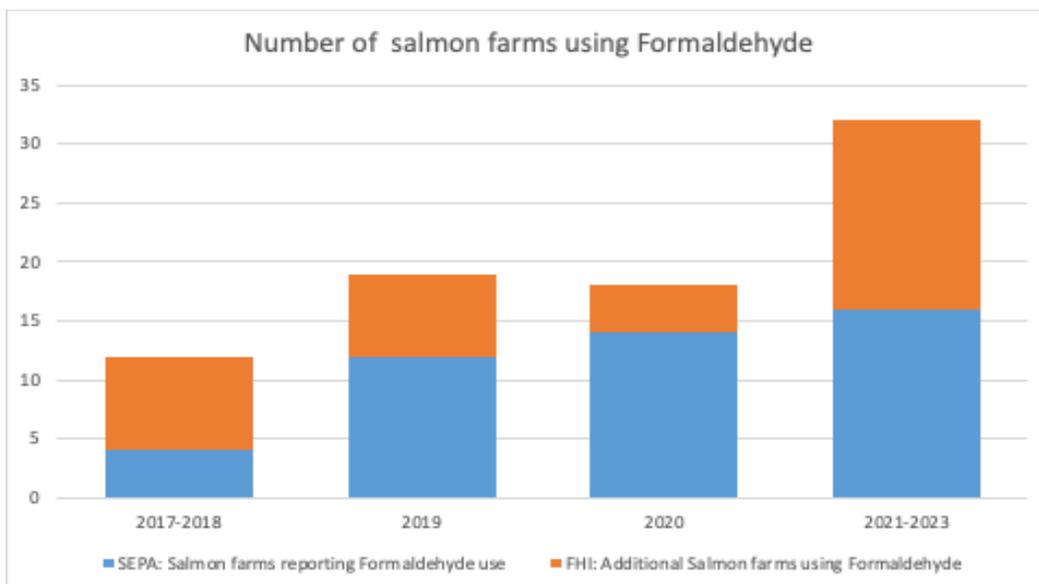
Scamon Scotland, 18 February 2024

### Cancer-Causing Formaldehyde Still Flooding Scottish Lochs

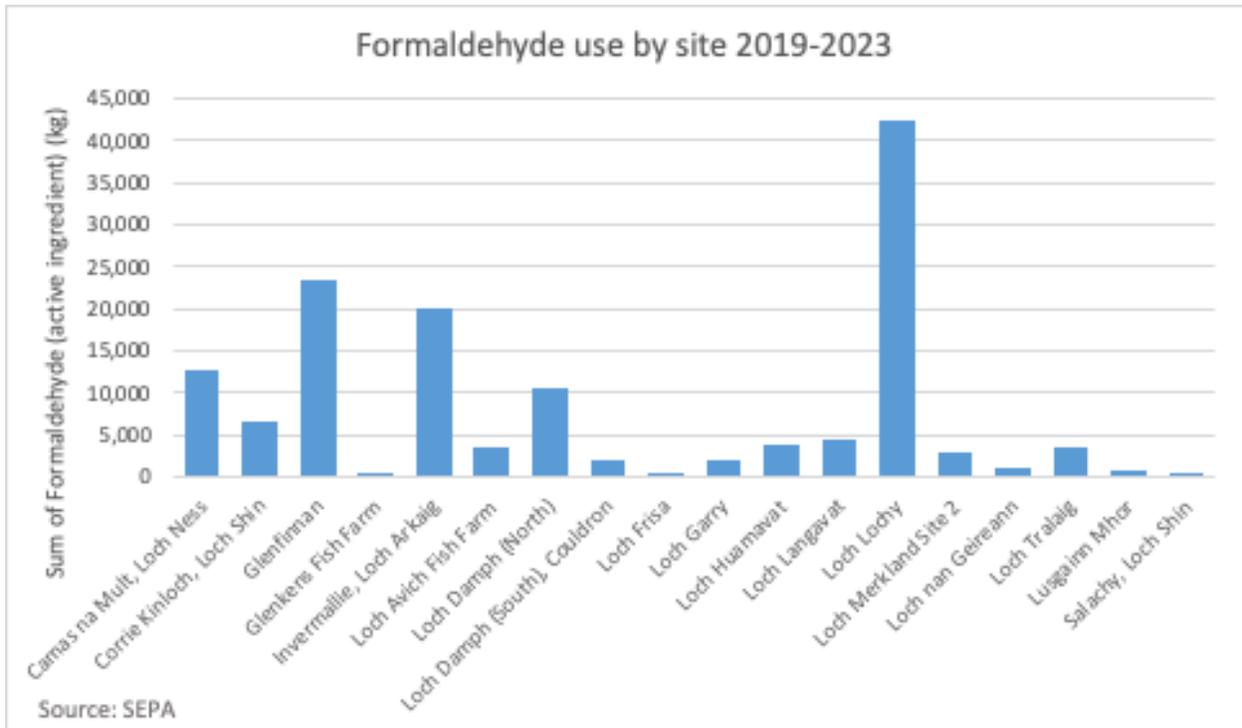
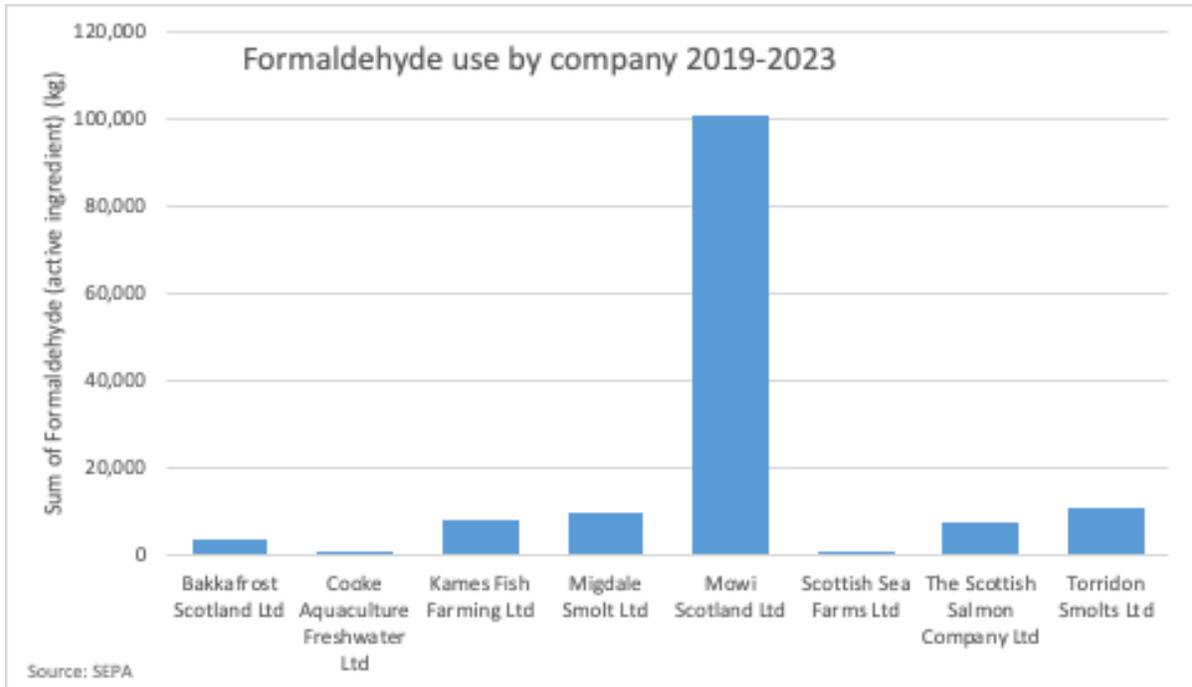
Despite a [petition signed by over 10,000 people](#) calling for a ban on the use of Formaldehyde (Formalin) in salmon farming, the carcinogenic chemical is still flooding lochs around Scotland. A [Freedom of Information disclosure by the Scottish Environment Protection Agency](#) (6 February) reveals that the number of fish farms reporting the use of Formaldehyde (Formalin) leapt from 4 in 2017-2018, to 12 in 2019, 14 in 2020 and to 16 between 2021 and 2023 [1].



However, the SEPA data ignores ‘Case Information’ reports of Formalin (Formaldehyde) use at other fish farms across Scotland ([published via the Scottish Government’s Fish Health Inspectorate](#)). When included, here is the [full picture of fish farms using Formaldehyde](#):



Data [disclosed by SEPA via FOI in 2024, 2020 and 2019](#) reveals that Norwegian giant Mowi is by far the largest user of Formaldehyde at 100 tonnes and Mowi's Loch Lochy salmon farm near Fort William is by far the biggest user of Formaldehyde with over 40 tonnes:



Download Excel spreadsheet via [Formaldehyde data combined from 2017 to 2023](#)

# Cancer-causing chemical used 200 times by fish farm industry

A Ferret production

BY BRILLY BROAD

**A** TOXIC pesticide that causes cancer was used by fish farms nearly 200 times over a three-year period despite fears the chemical could harm the marine environment and endanger human health.

Formaldehyde, which is used in mortuaries to embalm bodies, is also used by fish farmers to control fungus, parasites and diseases that affect salmon. New data released by the Scottish Environment Protection Agency (Sepa) after a freedom of information (FOI) request by the campaigner Don Staniford reveals that formaldehyde was used 194 times between January 2020 and June 2023. The FOI reply also revealed the number of fish farms reporting the use of formaldehyde was up from four in 2017 to 16 by 2023.

The farmed salmon industry said the chemical – formally used by artist Damien Hirst to preserve dead cows and sharks – breaks down quickly in water and is safe for the environment.

CRUK, however, said they are “deeply concerned” about the increase in the number of fish farms “using this carcinogenic chemical” and that the “dumping of toxic chemicals into the sea and freshwater bodies” should be banned.

Our report on formaldehyde from part of The Ferret’s new series on the marine environment called Scotland’s Seas in Danger.

The use of formaldehyde by fish farms was revealed by The Ferret in 2019 when we found that 184 sites in Scotland were allowed to use the chemical. A year later, we revealed that 10 fish farms had established

have been widely used for years by salmon and trout farmers to kill the sea lice that can plague farmed fish. They replaced a series of previous pesticides, which were either banned or became ineffective in the 1990s.

At the time of our previous report, the salmon farming industry claimed that pesticide pollution was less than in 2019 because it had been in preceding years.

Staniford, director of campaign group Scottish Salmon, called for a public register of fish farms using formaldehyde and an “immediate ban” on its use. He said companies failing to report the use of toxic chemicals should be fined and lose their operating licence. “Salmon farming is the real monster in the lochs of Scotland,” Staniford added.

Scottish Greens MSP Ariane Burgess said she was “deeply concerned” over the increased use of formaldehyde and pointed out that more than 10,000 people signed a petition in 2021 asking for a ban on its use in freshwater lochs until a public consultation on its safety took place.

She told The Ferret: “That consultation did not happen in the same year, the charity Petas called for more transparency and control over the use of this toxic chemical. This also has not happened.”

Burgess added: “I would hope that Sepa has this in their work plan, especially given the Scottish Government’s shift for sustainable aquaculture states a need to reduce or reduce or remove the discharge of medicine residues and increase the use of effective non-medical treatments, waste recovery and preventative measures.”

With formaldehyde, the industry appears to be going in the opposite direction.

The fish farming campaigner Corrie Smith said: “Scotland’s freshwater lochs should be for wildlife and for the public to enjoy, not waste disposal facilities for Norwegian salmon

John Atkinson, from the marine conservation group Coastal Communities Network (CCN), said “no other industry is allowed to pollute Scotland’s waters to the same extent”. Sepa, he said, must “get a grip on the routine dumping of toxic fish farm chemicals” into the sea and freshwater lochs.

“It is outrageous that Sepa’s figures for fish farm discharges of formaldehyde do not tally with the fish health inspectorate’s figures,” he added.

“This is a really important chemical but there seems to be no proper regulation of its use.”

For years, Coastal Communities Network and others have been urging Sepa to tighten its rules but the industry just seems to keep getting worse.”

The fish health head of technical at Salmon Scotland – which represents Scotland’s farmed salmon sector – said formalin is a licensed veterinary medicine that is used to “effectively control infections that are sometimes encountered during the freshwater



**Journalismfund Europe**



Scottish Greens MSP Ariane Burgess pointed out that a consultation had not happened

Medicines Directorate and Sepa. “These regulations ensure that any use of formalin is safe for the public, salmon farmers, our farmed salmon and for the environment.”

Berrill continued: “It is worth noting that formalin is widely available for purchase by the general public and is used extensively by a range of sectors. For example, about four million tonnes of formalin is produced in the EU each year. The volumes used for aquaculture purposes are a tiny percentage of the volumes used within the UK and elsewhere.”

Ben Hatfield, chief operating officer at Marel Scotland, said: “This continued focus from anti-salmon farming campaigners and an isolated politician about formaldehyde use in aquaculture seems misguided and quite bizarre, given it quickly breaks down to natural levels found in the decay of organic matter like leaves and wood and is present in the sediment of lochs with or without salmon farms.”

“This vertical sector is already being

accommodated without compromising environmental quality standards.”

A spokesperson for the Scottish Government said: “Fish farming is a highly regulated sector with robust environmental and fish health controls in place.

“The use of formaldehyde is strictly regulated by the independent Scottish Environment Protection Agency. It can be safely used in fish farming and, as required, it does not pose a risk to food safety.”

CRUK Aquaculture declined to comment and referred us to Salmon Scotland in comment “on behalf of the sector”.

Samuel Baklanoff, meanwhile, did not reply to our requests for a comment.

The Ferret is an editorially independent not-for-profit cyclopaedia run by its journalists and subscribers. You can find it at <https://theferret.com>

This article is part of a series on marine protection called Scotland’s Seas in Danger. It was developed with the support of Journalismfund Europe – an independent, non-profit organisation based in Belgium that supports media freedom and investigative journalism.

**Don Staniford** @TheGAAIA

Scottish Greens MSP @ArianeBurgessHI said she was "deeply concerned" over the increased use of Formaldehyde, and pointed out @FerretScot that more than 10,000 people signed a petition in 2021 asking for a ban on its use @ScottishEPA @ScotlandSalmon @ScotGovMarine @MairiGougeon



Coastal Communities Network (CCN) and 8 others

7:40 AM · Feb 18, 2024

Here are the [biggest reported uses of Formaldehyde \(2017 to June 2023\)](#) headed by Mowi's Glenfinnan salmon farm in Loch Shiel (near the Glenfinnan viaduct made famous in the Harry Potter films):

Site Name	Operator	Month	Formaldehyde (active ingredient) (kg)
Glenfinnan	Mowi Scotland Ltd	Apr-20	5381.2
Loch Lochy	Marine Harvest (Scotland) Ltd	Mar-18	4443.75
Loch Lochy	Marine Harvest (Scotland) Ltd	Aug-17	4200
Loch Lochy	Mowi Scotland Ltd	Mar-23	3769
Loch Lochy	Marine Harvest (Scotland) Ltd	Feb-18	3712.5
Loch Lochy	Mowi Scotland Ltd	Feb-23	3656
Loch Lochy	Mowi Scotland Ltd	Sep-19	3525
Loch Lochy	Mowi Scotland Ltd	Jan-23	3319
Glenfinnan	Marine Harvest (Scotland) Ltd	Oct-17	3226.875
Loch Lochy	Marine Harvest (Scotland) Ltd	Jan-18	3093.75
Glenfinnan	Mowi Scotland Ltd	Mar-20	2925
Loch Lochy	Mowi Scotland Ltd	Mar-20	2906
Loch Lochy	Marine Harvest (Scotland) Ltd	Sep-17	2831.25
Loch Lochy	Mowi Scotland Ltd	Oct-19	2606
Loch Lochy	Marine Harvest (Scotland) Ltd	Dec-17	2525
Invermallie, Loch Arkaig	Mowi Scotland Ltd	Feb-22	2,475
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	Feb-18	2456.25
Loch Lochy	Mowi Scotland Ltd	Feb-20	2456
Glenfinnan	Mowi Scotland Ltd	Apr-21	2419
Invermallie, Loch Arkaig	Mowi Scotland Ltd	Nov-21	2344
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	Jan-18	2325
Loch Lochy	Marine Harvest (Scotland) Ltd	Jul-18	2231.25
Glenfinnan	Marine Harvest (Scotland) Ltd	Nov-17	2212.5
Invermallie, Loch Arkaig	Mowi Scotland Ltd	Apr-19	2195.625

“The data disclosed by SEPA is just the tip of a toxic iceberg,” said Don Staniford, Director of \$camon \$cotland (author of ‘[Silent Spring of the Sea](#)’). “Information published by the Scottish Government reports the use of Formalin (Formaldehyde) at another 20 fish farms across Scotland. \$camon \$cotland reiterates our call for a public register of fish farms using Formaldehyde and an immediate ban on the use of this carcinogenic chemical. Companies failing to report the use of toxic chemicals should be fined and lose their operating licences. Salmon farming is the real monster in the lochs of Scotland.”

Here are the 16 fish farms reporting use of Formaldehyde (Formalin) between 2021 and 2023 (up to June):

Camas na Mult, Loch Ness: Mowi  
Corrie Kinloch, Loch Shin: Migdale Smolt  
Glenfinnan: Mowi  
Invermallie, Loch Arkaig: Mowi  
Loch Avich: Kames  
Loch Damph (North): Torridon Smolts  
Loch Damph (South) Couldron: Bakkafrost  
Loch Garry: Mowi  
Loch Huamavat: Bakkafrost/The Scottish Salmon Company  
Loch Langavat: Bakkafrost/The Scottish Salmon Company  
Loch Lochy: Mowi  
Loch Merkland Site 2: Migdale Smolt  
Loch nan Geireann: Bakkafrost/The Scottish Salmon Company  
Loch Tralaig: Kames  
Lusgainn Mhor: Kames  
Salachy, Loch Shin: Cooke

[Glenkens – operated by Kames – reported Formaldehyde use in 2020]

Additionally, ‘Case Information’ [published by the Scottish Government’s Fish Health Inspectorate](#) identifies 20 fish farm sites where Formalin (Formaldehyde) use was reported between 2020 and 2023 but was not reported by SEPA [2]:

Applecross Hatchery: Bakkafrost  
Applecross Smolt Unit: Bakkafrost  
Ardtaraig Hatchery: Cooke  
Barcaldine Smolt Unit: Scottish Sea Farms  
Clachan Hatchery: Hebridean Smolts  
Clachbreac: Landcatch Natural Selection  
Couldoran Hatchery: Bakkafrost  
Duartmore: Loch Duart  
Evanachan Marine Hatchery: Otter Ferry Seafish  
Inverkerry Smolt Unit: Landcatch Natural Selection  
Inverpolly: Finfish (Mowi)  
Invicta Trout: Invicta Trout

Kinnaird Mill Trout: Dawnfresh  
 Loch Earn: Dawnfresh  
 Loch Garasdale: Cooke  
 Lochailort Recirculation Hatchery: Mowi  
 Mingarry Hatchery: Hebridean Smolts  
 Ormsary Hatchery: Landcatch Natural Selection  
 Ormsary Smolt Unit: Landcatch Natural Selection  
 Wrasse Broodstock Unit (Machrihanish): Mowi

Data [disclosed by SEPA via FOI in May 2020](#) detailed the use of Formaldehyde at 12 salmon farms – here's the Top 20 highest reported uses between April 2019 and December 2019 [3]:

Site Name	Operator	Month	Formaldehyde (active ingredient in grams)
Loch Lochy	Mowi Scotland Ltd	Sep-19	3525000
Loch Lochy	Mowi Scotland Ltd	Oct-19	2606000
Invermallie, Loch Arkaig	Mowi Scotland Ltd	Apr-19	2195625
Loch Lochy	Mowi Scotland Ltd	Dec-19	1743750
Loch Lochy	Mowi Scotland Ltd	Aug-19	1612500
Camas na Mult, Loch Ness	Mowi Scotland Ltd	Oct-19	1294000
Loch Lochy	Mowi Scotland Ltd	Jul-19	1087500
Glenfinnan	Mowi Scotland Ltd	Nov-19	1057500
Invermallie, Loch Arkaig	Mowi Scotland Ltd	Nov-19	1012500
Glenfinnan	Mowi Scotland Ltd	Oct-19	825000
Loch Tralaig	Kames Fish Farming Ltd	Nov-19	624000
Camas na Mult, Loch Ness	Mowi Scotland Ltd	Sep-19	618700
Loch Tralaig	Kames Fish Farming Ltd	Dec-19	526000
Glenfinnan	Mowi Scotland Ltd	Dec-19	450000
Loch Avich Fish Farm	Kames Fish Farming Ltd	Sep-19	396000
Loch Lochy	Mowi Scotland Ltd	Nov-19	393750
Loch Avich Fish Farm	Kames Fish Farming Ltd	Oct-19	390000
Glenfinnan	Mowi Scotland Ltd	Sep-19	337500
Loch Garry	Mowi Scotland Ltd	Aug-19	312375
Camas na Mult, Loch Ness	Mowi Scotland Ltd	Nov-19	281250

Data [disclosed by SEPA via FOI in April 2019](#) detailed the use of Formaldehyde at only four salmon farms (Mowi's Glenfinnan, Loch Lochy, Loch Arkaig and Loch Garry) – here's the Top 20 highest reported uses between May 2017 and September 2018 [4]:

Site Name	Operator	Licence	Month	Formaldehyde (active ingredient in grams)
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Mar-18	4443750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Aug-17	4200000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Feb-18	3712500
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Oct-17	3226875
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jan-18	3093750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Sep-17	2831250
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Dec-17	2525000
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Feb-18	2456250
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Jan-18	2325000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jul-18	2231250
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Nov-17	2212500
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jul-17	2193750
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Sep-18	1950000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Aug-18	1818750
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Dec-17	1762500
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Oct-17	1725000
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Nov-17	1218750
Invermallie, Loch Arkaig	Marine Harvest (Scotland) Ltd	CAR/L/1002071	Nov-17	1200000
Glenfinnan	Marine Harvest (Scotland) Ltd	CAR/L/1008960	Sep-17	1106250
Loch Lochy	Marine Harvest (Scotland) Ltd	CAR/L/1002140	Jun-17	918750

When questioned by Scottish Salmon Watch, why Russel Burn hatchery was not included ([Formaldehyde containers were filmed piled up outside in June 2019](#)), [SEPA replied in July 2019](#) [5]:

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.

Trawling through 'Case Information' [reported by the Scottish Government's Fish Health Inspectorate](#) reveals other cases where Formalin (Aquacen) is reported (2023-2018) with [many cases not reported via the SEPA FOI data \[2\]](#):

Applecross Hatchery - Bakkafrost Scotland - 2023-0216  
13/2/23-19/2/23 3.93% 0.3g fish fungus 124,528 Formalin treatment  
1/5/23-7/5/23 6.04% 0.5g fish fungus 184728 Aquacen/Cress treatment

Clachbreac - Landcatch Natural Selection Ltd - 2023-0237  
Treatment records indicate that Formalin was last used 25/7/2023 to flush fish for fungus signs following vaccination (post vaccination plan)

Duartmore - Loch Duart Ltd - 2023-0045  
Formalin treatment conducted in July 22 for Costia

Inverkerry Smolt Unit - Landcatch Natural Selection Ltd - 2023-0476  
Aquacen - Formalin used at site post vaccine

Inverpolly - Finfish Ltd - 2023-0478  
last treatment May 2023 - Aquacen - Formalin, Cress Bronapol.  
22/5/23 - 22/5/23 Florfenical for RTFS

Lochailort Recirculation Hatchery - Mowi Scotland Ltd - 2023-0067  
Treatment records show that regular Formalin and Cress administered to keep on top of any saprolegniosis observed

Ormsary Hatchery - Landcatch Natural Selection Ltd - 2023-0535  
To deal with any fungus in incubators, a Formalin flush is administered regularly during incubation

Applecross Smolt Unit - Bakkafrost Scotland - 2022-0220  
Fish treated with Aquacen (Formalin) on 25/10/2022, fish are nearing end of withdrawal period.

Couldoran Hatchery - Bakkafrost Scotland - 2022-0138  
Currently treating for saprolegnia using Formalin in RAS facility

Duartmore - Loch Duart Ltd - 2022-0496  
Costia is generally the primary health challenge experienced on the site, however it has not been an issue this cycle with only one Formalin bath conducted in July 22.

Evanachan Marine Hatchery - Otter Ferry Seafish Ltd - 2022-0188  
Treatments that are used are Formalin and Pyceze

Mingarry Hatchery - Hebridean Smolts Ltd - 2022-0466  
Fish have only been treated with Formalin this cycle and are not currently in withdrawal

Ardtaraig Hatchery - Cooke Aquaculture (Freshwater) Ltd - 2021-0316  
Fish on withdrawal; Aquasen 500 degree days - (Formalin) - ongoing and Cress (Pyceze) - 500 degree days withdrawal- treatments for Fungus

Clachan Hatchery - Hebridean Smolts Ltd - 2021-0371  
The fish were then treated with formalin to prevent infections post vaccination

Duartmore - Loch Duart Ltd - 2021-0525  
Only treatments done include one Formalin bath treatment in June 21 and the use of tricaine during vaccinations in October 21.

Inverkerry Smolt Unit - Landcatch Natural Selection Ltd - 2021-0102  
Fish treated with Formalin at weekend, early signs of saprolegnia

Inverpolly - Finfish Ltd - 2021-0164  
Not causing mortalities, with Aquacen formaldehyde and Bronopol treatments being carried out under veterinary advice.

Loch Garasdale - Cooke Aquaculture (Freshwater) Ltd - 2021-0458  
Last treatment conducted in March - Post vaccination Formalin treatment.

Ormsary Smolt Unit - Landcatch Natural Selection Ltd - 2021-0334  
Formalin is the only treatment that has been administered since last inspection in response to fungal infection and post- vaccination with Alphaject Micro PD1 and Micro 6.

Wrasse Broodstock Unit - Mowi Scotland Ltd - 2021-0248  
Treated once a month with Formalin (bigger fish) as prophylactic  
Treated every two weeks with Formalin/Pyceze (smaller fish) as prophylactic

Barcaldine Smolt Unit - Scottish Sea Farms Ltd - 2020-0364  
Cress (Bronopol) and Aquacen (Formalin) used post vaccination.

Couldoran Hatchery - Bakkafrøst Scotland - 2020-0096  
Fish had been recently treated with Formalin and Cress

Laddie Wood, Loch Garry - Mowi Scotland Ltd - 2020-0346 - 08/09/2020  
[Not listed on SEPA for Sep 2020]  
Post-vaccination bath treatments ongoing using Formalin and Cress.

Loch Garasdale - Cooke Aquaculture (Freshwater) Ltd - 2020-0006  
Last treatments were post-vaccine for previous cycle - Formalin treatments - 23/3/19 - 30/3/19

Ormsary Smolt Unit - Landcatch Natural Selection Ltd - 2020-0010  
Vaccinated 20/11/19 and post treated with Formalin

Duartmore Hatchery - Loch Duart Ltd - 2019-0097

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

Barvas Hatchery - Bakkafrost Scotland - 2019-0731  
Site is using Aquacen.

Inchmore - Mowi Scotland Ltd - 2019-0037  
Withdrawal for TMS, Formalin, Pyceze weeks 5 and 6 post vaccine use.

Geocrab Hatchery - Bakkafrost Scotland - 2019-0732  
Fish from Barvas treated with Aquacen and Pyceze before they were moved to Geocrab.

Ormsary Smolt Unit - Landcatch Natural Selection Ltd - 2019-0060  
Formalin prescribed and administered under CASCADE.

Ormsary Hatchery - Landcatch Natural Selection Ltd - 2019-0061  
Water treated with Formalin up to twice a week to prevent fungal infections.

Clachbreac - Landcatch Natural Selection Ltd - 2019-0743  
Site had been treated with Formalin in early November for fungus

Kinlochmoidart Hatchery - Bakkafrost Scotland - 2018-0493  
Formalin flushed through a number of tanks (5,6,11,12) for costia

Yetts O' Muckart - Cooke Aquaculture (Freshwater) Ltd - 2018-0608  
Treated weekly with prophylactic Formalin plus post vac Formalin dosage at the moment.

Clachan Hatchery - Hebridean Smolts Ltd - 2018-0611  
Formalin treatment prescribed by vet via cascade.

Ormsary Smolt Unit - Landcatch Natural Selection Ltd - 2018-0012  
Treating with Formalin

Hollywood Breeding Centre - AquaGen Scotland Ltd - 2018-0584  
All fish to arrive on site will be treated with Formalin

Langass Hatchery - Bakkafrost Scotland - 2018-0108  
Recently had gut fungus in a couple of tanks, but treated with Formalin

Ormsary Hatchery - Landcatch Natural Selection Ltd - 2018-0013  
Water for ova treated routinely with Formalin

Lochailort Recirculation Hatchery - Mowi Scotland Ltd - 2018-0282  
Formalin and Pyceze

The Sunday Times and The Ferret [reported in December 2021](#):

## M&S salmon supplier on hook over misreporting pesticide use at Scottish fish farms

Rob Edwards

Sunday December 05 2021, 12.01am, The Sunday Times

Animals



Scottish Sea Farms 'breached RSPCA welfare standards'  
TIMES PHOTOGRAPHER JAMES GLOSSOP

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The company that supplies Scottish farmed salmon to Marks & Spencer has been officially reprimanded for misreporting toxic pesticide use at 25 fish farms over three years.

Documents seen by the investigative journalism co-operative The Ferret reveal that Scottish Sea Farms was sent two final warnings by the Scottish Environment Protection Agency (Sepa) in February last year for under-reporting its use of chemicals to kill the lice that can plague caged salmon.

Sepa accused the company of supplying information that “was not true and accurate” in 2015, 2016 and 2017. This was a “serious matter”, the agency said, warning that any further breaches could result in prosecution.

The reprimand from Sepa prompted the Royal Society for the Prevention of Cruelty to Animals (RSPCA) to send Scottish Sea Farms a warning letter in October this year. The charity was “extremely concerned” and said the company had breached its membership agreement with the RSPCA Assured certification scheme.

Sepa's enforcement action came to light in more than 400 documents released in September 2021 after a ten-month freedom of information battle by Corin Smith, a fish farming campaigner. The documents disclose results of an “audit and unannounced inspection programme” of pesticides at salmon farms launched by Sepa in 2018. Salmon reared in lochs around Scotland have often been bathed in pesticide solutions to rid them of the sea lice that eat them alive.

Sepa's final warning letters to Scottish Sea Farms said that information on the use of two pesticides, azamethiphos and deltamethrin, had not been reported or was “incorrect”. According to the chemical data sheet on Sepa's website, azamethiphos is “very toxic to aquatic life with long-lasting effects”. The industry data for deltamethrin describes it as “toxic” to crabs and lobsters.

Scottish Salmon Watch [reported in May 2020](#):

Scottish Salmon Watch counts the following 19 sites which reported Formalin use to the Scottish Government's Fish Health Inspectorate but not to SEPA (i.e. in breach of their reporting requirements):

Cooke Aquaculture's Ardtaraig Hatchery on Loch Striven in Argyll  
Cooke Aquaculture's Cliff salmon farm in Shetland  
Cooke Aquaculture's Furnace Hatchery on Loch Fyne  
Cooke Aquaculture's Loch Garasdale salmon farm in Argyll  
Cooke Aquaculture's Yetts O'Muckart salmon farm in Clackmannanshire  
FAI Aquaculture's FAI Aultbea salmon farm in Wester Ross  
Hebridean Smolts' Clachan Hatchery in Loch Carnan in South Uist  
Landcatch's Clachbreac salmon farm in Argyll  
Landcatch's Ormsary Smolt Unit in Argyll  
Loch Duart's Duartmore hatchery in Sutherland  
Mowi's Inchmore Hatchery in Glenmoriston  
Mowi's Lochailort Recirculation Hatchery in Lochaber  
Scottish Sea Farms Barcaldine Smolt Unit on Loch Creran in Argyll  
Scottish Sea Farms' salmon farm in Loch Ba on the Isle of Mull  
Scottish Sea Farms' Knock salmon farm on the Isle of Mull  
The Scottish Salmon Company's Appleburn Hatchery in Wester Ross  
The Scottish Salmon Company's Kinlochmoidart Hatchery in Highland  
The Scottish Salmon Company's Langass Hatchery in North Uist  
The Scottish Salmon Company's Russel Burn Hatchery on Loch Kishorn

Documents [disclosed by SEPA via FO191629 on 12 May 2020](#) included a statement to The Ferret in June 2019 (who [subsequently published an article on the issue](#)) that "operators are required to record each individual use of formaldehyde" and the claim that "these records are audited as part of SEPA's routine compliance inspections":

**The Ferret response - 28 June 2019**

A spokesperson from SEPA, said:

"Every day SEPA works to protect and enhance Scotland's environment.

"Uncontrolled releases of formaldehyde have the potential to cause significant harm to the environment. It is therefore important to ensure that formaldehyde is stored, handled and used appropriately to minimise the risk of any uncontrolled releases.

"The use of formaldehyde is authorised at the Russel Burn hatchery by SEPA and the operators are required to record each individual use of formaldehyde. These records are audited as part of SEPA's routine compliance inspections.

"We take any allegations of environmental breaches very seriously and as an evidenced based organisation we would always take action to investigate where information comes to light. We would therefore encourage anyone with information of non-compliance to contact SEPA, in confidence, via the Pollution Hotline 0800 80 70 60."

[F0191629 disclosed by SEPA on 12 May 2020](#) also included the statement in July 2019 to The Sunday Times (who [subsequently published an article on the issue](#)) that monthly records of chemical use are "submitted as part of the operators data returns":

**Sunday times response - 19 July 2019**

THE SUNDAY TIMES : LOCH ARKAIG

A spokesperson from SEPA, said:

"Every day SEPA works to protect and enhance Scotland's environment.

"Formaldehyde is authorised under strict limits at Loch Arkaig. The use of chemicals at the site are controlled by the site licence. The records below outline monthly use at the site, as submitted as part of the operators data returns. Chemical records are audited as part of SEPA's routine compliance inspections and the site's current compliance is rated as 'excellent'."

Car license CAR/L/1002071. Data returns highlight use as outlined below:

Month and year	Formaldehyde (active ingredient in grams) total
May 2017	-
June 2017	-
July 2017	-
Aug 2017	356,250
Sep 2017	1,106,250
Oct 2017	3,226,875
Nov 2017	2,212,500
Dec 2017	56,250
Jan 2018	-
Feb 2018	-
Mar 2018	-
Apr 2018	-
May 2018	-

June 2018	-
July 2018	-
Aug 2018	-
Sep 2018	18,780
Oct 2018	206,250
Nov 2018	393,750
Dec 2018	1,258,125
Jan 2019	675,000
Feb 2019	1,350,000
Mar 2019	2,291,250
Apr 2019	2,295,625
May 2019	-

"Scottish Salmon Watch finds it perplexing that only Mowi/Marine Harvest officially reported the use of Formaldehyde (Formalin) to SEPA prior to August 2019 (as detailed via both [F0190275](#) and [F0191629](#)) and finds it difficult to believe that Mowi was the only company using the cancer-causing chemical," [wrote Scottish Salmon Watch in a FOI review letter to SEPA dated 13 May 2020](#). "Indeed, Scottish Salmon Watch cannot help but speculate that our [press release dated 26 June 2019](#) triggered the reporting of Formaldehyde (Formalin) use by other companies (i.e. their non-reporting became an issue which they were prompted to remedy and may have back-dated or corrected monthly operator data returns)."

In August 2020, Scottish Salmon Watch [published video footage of an assault by a Kames worker objecting to questions on the use of Formaldehyde in Loch Tralaig](#):

 **Don Staniford** ✓  
@TheGAAIA · Follow

X

"I will f\*\*\*ing murder the f\*\*k out of you," screams salmon farm worker Gregor Maclellan @kamesfishfarm as he assaults a local resident for filming the use of carcinogenic chemicals in Loch Tralaig [tinyurl.com/y5aqlbcj](https://tinyurl.com/y5aqlbcj) Why did @policescotland let him off with only a warning?

"You cunt - I will fucking murder the fuck out of you," said the Kames employee [Gregor Maclellan](#) as he attacked a local resident and smashed his phone for filming the use of carcinogenic chemical Formaldehyde in Loch Tralaig. "You fucking film me again fuck you up you cunt. Fuck off. You fucking arsehole," threatened the Kames employee who [features in new advertising for Kames](#) and is shown prominently on [Kames's website](#)



11:31 AM · Oct 23, 2020

When this video footage was [reposted on Twitter in January 2024](#) it racked up 2.3 million views:

 **Don Staniford** ✓  
@TheGAAIA

Watch what happens when a concerned local living next to a salmon farm in Loch Tralaig asks workers about diseased fish & toxic chemicals: "You c\*\*t - I will f\*\*king murder the f\*\*k out of you. You f\*\*king film me again I will f\*\*k you up you c\*\*t" says the potty-mouthed fish farmer



0:54

11:11 AM · Jan 15, 2024 · 2.3M Views

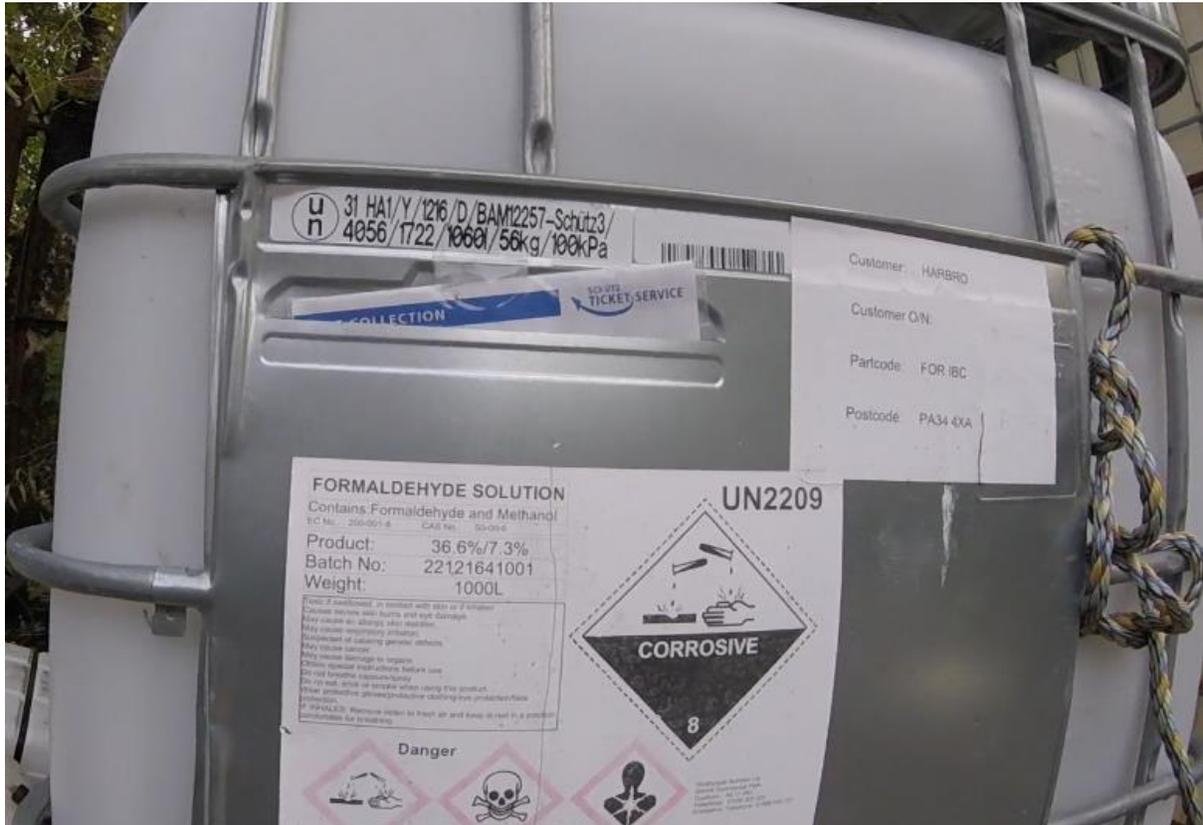
In September 2020, Scottish Salmon Watch [filmed containers of Formalin \(Formaldehyde\) on a salmon farm operated by Kames in Loch Tralaig](#):



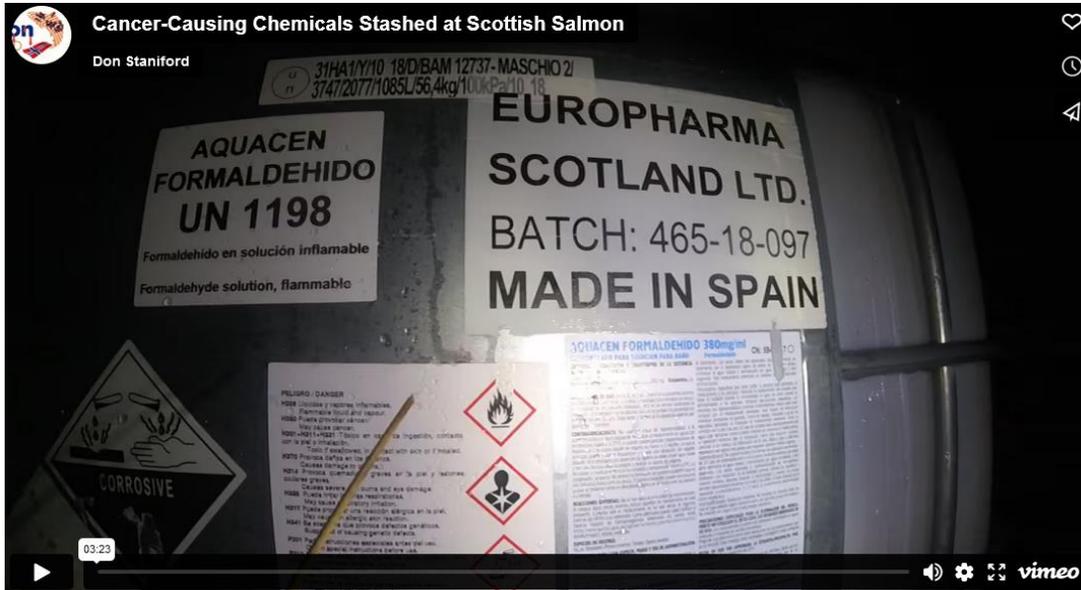
Video footage of Formalin (Formaldehyde) being used by Kames workers in Loch Tralaig in October 2019 is available [online here](#) and footage from November 2019 [online here](#)



Scottish Salmon Watch's interest in Formaldehyde use was first triggered by the [discovery of chemical containers piled up at Kames in Kilmelford in September 2018](#):



The issue of Formaldehyde use on salmon farms in Scotland was raised in June 2019 when Scottish Salmon Watch [filmed containers of Aquacen piled up outside Applecross/Russel Burn hatchery](#) operated by The Scottish Salmon Company (since renamed Bakkafrost) in Loch Kishorn.



The Ferret and Sunday National [reported in June 2019](#):

 **Don Staniford**  @TheGAAIA

"Fears over toxic chemical approved for use in fish farms" reports today's [@SunScotNational](#) "The use of carcinogenic chemicals such as Formaldehyde should be banned immediately" [@ScottishEPA](#) [@SSPOsays](#) [@MowiScotlandLtd](#) [@salmon\\_scottish](#) [@SoilAssociation](#) [@SoilAssocScot](#) [@scotgp](#)



8:32 AM · Jun 30, 2019

In July 2019, Scottish Salmon Watch [filmed more Formaldehyde containers piled up at Mowi's salmon farm in Loch Arkaig](#):



The Sunday Times [reported in June 2019](#):



## Chemical fears at Scots fish farms

Formaldehyde, used by Damien Hirst to embalm animals, is being used as a disinfectant at Loch Arkaig, on land owned by a Conservative MSP

Billy Briggs

July 21 2019, 12:01am,  
The Sunday Times



Loch Arkaig where the 'formaldehyde solution' was pictured

The Ferret and Sunday National [reported in May 2020](#):



**The Ferret**  
@FerretScot



More than 22 tonnes of formaldehyde, which causes cancer, were poured into cages to disinfect salmon in Loch Ness, Loch Sheil, Loch Lochy and seven other lochs over nine months in 2019.



From theferret.scot

11:08 AM · May 24, 2020



The Oban Times [reported in August 2020:](#)



**Don Staniford** ✓  
@TheGAAlA

...

Call to ban fish farm use of formaldehyde @obantimes tinyurl.com/  
y3swhpbs @SaveOurLochs @FergusEwingMSP @strathearnrose  
@GillianMSP @SP\_ECCLR @ScottishEPA @SSPOsays  
@MowiScotlandLtd @markruskell @scotgp @ewangkennedy  
@TheSoundOfJura @vmdgovuk @nature\_scot @H\_S\_E @argyllandbute

# The Oban Times

Serving the west since 1861

No 8525 Thursday 20 August 2020 www.obantimes.co.uk 95p

## Campaigners call for ban on fish farm formaldehyde

**By Sils Butcher**

Formaldehyde is getting on the Scottish Government to stop its use and help the use of formaldehyde in fish water lochs across the west Highlands.

Campaigners for better water clean-up (SWCP) have called for a total ban on the chemical at fish farms and a 'pre-emptive' public consultation on its use in other places and they have called on other politicians to support, bearing nearby fish farms.

It follows a Freedom of Information request earlier this year to the Scottish Environment Protection Agency (SEPA). It revealed more than 22 tonnes of formaldehyde had been poured into cages at 12 fish farms across Scotland between April and December 2019.

Fish farming companies are officially sanctioned by SEPA to apply the chemical to water as it is used to treat bacterial diseases and control fungus, parasites, and lice.

The practice is legally permitted in a number of lochs, including Loch Tealig near Mullart, Loch Shil, Clontanna, Loch Lochy and Loch Awaig, both open lochs.

Campaigners have raised concerns about the impact on human health and wildlife, and 'accidental overflows' - where some of the chemical enters the water than allowed.

The concern is the quantities being used and their impact.

The SWCP has now raised the issue with Rosanna Cunningham MSP, cabinet secretary for the environment, climate change and land reform committee.

The SWCP opposes the use of formaldehyde, calling it a 'variety of' chemical used for sanitising. Ministers have put no formaldehyde request to MSP's letter to the public petition.

However, the Scottish Government said in a statement to The Oban Times: "The use of formaldehyde is strictly regulated by the independent Scottish Environment Protection Agency (SEPA), and it can be used in fish farming.

Formaldehyde use in fish farming, as regulated, does not pose a risk to food safety."

SWCP has encouraged people to lobby their local MSP, MP and councillors.

It has also called on people to contact support from their local fishery board, wild swimming clubs, conservation groups, schools, community groups, sailing clubs and bird watching groups.

Cornie Smith, founder of SWCP, based in Perthshire, said it recognized formaldehyde had been used in farming for many years and that it takes some "reluctance" to replace.

The concern is the quantities being used and accidental overflows and their impact.

Continued on page two.

### Volunteers go extra mile for RNLI

After 17:29 is the number of Tiberius...  
The original challenge was to complete 1,750...

12:55 PM · Aug 20, 2020

### Stop Toxic Salmon Farm Chemicals Polluting Scottis... Inside Scottish Salmon Feedlots • Follow

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Facebook Watch

In June 2020, Scottish Salmon Watch [filmed containers of Formaldehyde at Mowi's wrasse hatchery at Machrihanish](#) near Campbeltown in Argyll:



In May 2021, Scottish Salmon Watch [filmed containers of Aquacen \(Formaldehyde\) at Langass Hatchery](#) operated by The Scottish Salmon Company (since renamed Bakkafrost) in North Uist:



In December 2022, [Dale Vince's Ecotricity and the Daily Express](#) published video footage of Formaldehyde containers piled up at a salmon farm in Scotland:

### Dale Vince releases film exposing salmon farming in the UK



### Dale Vince releases film exposing salmon farming in the UK



Watch more via Andrew Holder's film '[The Poisoned Loch](#)':



**Don Staniford** ✓

@TheGAAIA



Watch more via 'The Poisoned Loch' @andrholder



youtube.com

**The Poisoned Loch**

Loch Tralaig is a freshwater loch near Oban, West of Scotland. Kames, a fish farming company is raising smolt...

4:37 PM · Jan 15, 2024 · **114.8K** Views



### The Poisoned Loch



**Dip in the Blue**  
75 subscribers

Subscribe

66



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Clip

Save



4,059 views Sep 24, 2020

Loch Tralaig is a freshwater loch near Oban, West of Scotland. Kames, a fish farming company is raising smolts (young fish) here for selling on to other fish farm companies. The farm is an industrial operation which has gone badly wrong. It is riddled with disease and sea lice. The fish are dying in huge numbers every day and Kames are pouring barrels of Formalin, Formaldehyde solution, into the loch to try and stem the disaster. The situation is being monitored by local residents and every day between 50 and 100 litres of Formalin poured into the water. The regulators, SEPA, are doing nothing, despite evidence that Kames are polluting on a massive scale. The farm is rated as RSPCA Assured, yet RSPCA pay no heed to the appalling animal welfare conditions.

**Notes to Editors:**

[1] Read more via [Formaldehyde \(Formalin\) FOI Disclosure from SEPA \(February 2024\)](#)

More data analysis via [Formaldehyde data combined from 2017 to 2023](#)

	2017-2018	2019	2020	2021-2023
SEPA: Salmon farms reporting Formaldehyde use	4	12	14	16
FHI: Additional Salmon farms using Formaldehyde	8	7	4	16
SEPA: Salmon farms reporting Formaldehyde use	Glenfinnan	Camas na Mult, Loch Ness	Camas na Mult, Loch Ness	Camas na Mult, Loch Ness
	Invermallie, Loch Arkaig	Corrie Kinloch, Loch Shin	Corrie Kinloch, Loch Shin	Corrie Kinloch, Loch Shin
	Loch Garry	Glenfinnan	Glenfinnan	Glenfinnan
	Loch Lochy	Invermallie, Loch Arkaig	Glenkens Fish Farm	Invermallie, Loch Arkaig
		Loch Avich Fish Farm	Invermallie, Loch Arkaig	Loch Avich Fish Farm
		Loch Damp (North)	Loch Avich Fish Farm	Loch Damp (North)
		Loch Damp (South), Coudron	Loch Damp (North)	Loch Damp (South), Coudron
		Loch Frisa	Loch Damp (South), Coudron	Loch Garry
		Loch Garry	Loch Garry	Loch Huamavat
		Loch Lochy	Loch Huamavat	Loch Langavat
		Loch Tralaig	Loch Langavat	Loch Lochy
		Salachy, Loch Shin	Loch Lochy	Loch Merkland Site 2
			Loch Merkland Site 2	Loch nan Geireann
			Loch Tralaig	Loch Tralaig
				Lusgainn Mhor
				Salachy, Loch Shin
FHI: Additional Salmon farms using Formaldehyde	Clachan Hatchery	Barvas Hatchery	Barcaldine Smolt Unit	Applecross Hatchery
	Hollywood Breeding Centre	Clachbreac	Couldoran Hatchery	Applecross Smolt Unit
	Kinlochmoidart Hatchery	Duartmore Hatchery	Loch Garasdale	Ardtaraig Hatchery
	Langass Hatchery	Geocrab Hatchery	Ormsary Smolt Unit	Clachan Hatchery
	Lochailort Recirculation Hatchery	Inchmore		Clachbreac
	Ormsary Hatchery	Ormsary Hatchery		Couldoran Hatchery
	Ormsary Smolt Unit	Ormsary Smolt Unit		Duartmore
	Yetts O' Muckart			Evanachan Marine Hatchery
				Inverkerry Smolt Unit
				Inverpollly
				Loch Garasdale
				Lochailort Recirculation Hatchery
				Mingarry Hatchery
				Ormsary Hatchery
				Ormsary Smolt Unit
				Wrasse Broodstock Unit

	2017	2018	2019	2020	2021	2022	2023
SEPA: Salmon farms reporting Formaldehyde use	4	4	12	14	15	13	6
FHI: Additional Salmon farms using Formaldehyde		8	7	4	8	5	7
SEPA: Salmon farms reporting Formaldehyde use	Glenfinnan	Glenfinnan	Camas na Mult, Loch Ness				
	Invermallie, Loch Arkaig	Invermallie, Loch Arkaig	Corrie Kinloch, Loch Shin				
	Loch Garry	Loch Garry	Glenfinnan	Glenfinnan	Glenfinnan	Glenfinnan	Loch Damp (North)
	Loch Lochy	Loch Lochy	Invermallie, Loch Arkaig	Glenkens Fish Farm	Invermallie, Loch Arkaig	Invermallie, Loch Arkaig	Loch Huamavat
			Loch Avich Fish Farm	Invermallie, Loch Arkaig	Loch Avich Fish Farm	Loch Avich Fish Farm	Loch Langavat
			Loch Damp (North)	Loch Avich Fish Farm	Loch Damp (North)	Loch Damp (North)	Loch Lochy
			Loch Damp (South), Coudron	Loch Damp (North)	Loch Damp (South), Coudron	Loch Damp (South), Coudron	
			Loch Frisa	Loch Damp (South), Coudron	Loch Garry	Loch Garry	
			Loch Garry	Loch Garry	Loch Huamavat	Loch Huamavat	
			Loch Lochy	Loch Huamavat	Loch Langavat	Loch Langavat	
			Loch Tralaig	Loch Langavat	Loch Lochy	Loch Lochy	
			Salachy, Loch Shin	Loch Lochy	Loch Merkland Site 2	Loch Merkland Site 2	
				Loch Merkland Site 2	Loch Tralaig	Loch nan Geireann	
				Loch Tralaig	Lusgainn Mhor		
					Salachy, Loch Shin		
FHI: Additional Salmon farms using Formaldehyde	No FHI Data	Clachan Hatchery	Barvas Hatchery	Barcaldine Smolt Unit	Ardtaraig Hatchery	Applecross Smolt Unit	Applecross Hatchery
		Hollywood Breeding Centre	Clachbreac	Couldoran Hatchery	Clachan Hatchery	Couldoran Hatchery	Clachbreac
		Kinlochmoidart Hatchery	Duartmore Hatchery	Loch Garasdale	Duartmore	Duartmore	Duartmore
		Langass Hatchery	Geocrab Hatchery	Ormsary Smolt Unit	Inverkerry Smolt Unit	Evanachan Marine Hatchery	Inverkerry Smolt Unit
		Lochailort Recirculation Hatchery	Inchmore		Inverpollly	Mingarry Hatchery	Inverpollly
		Ormsary Hatchery	Ormsary Hatchery		Loch Garasdale		Lochailort Recirculation Hatchery
		Ormsary Smolt Unit	Ormsary Smolt Unit		Ormsary Smolt Unit		Ormsary Hatchery
		Yetts O' Muckart			Wrasse Broodstock Unit		

[2] ‘Case Information’ [published by the Scottish Government’s Fish Health Inspectorate](#) detailed the use of Formalin (Aquacen) at dozens of fish farms between 2018 and 2023 (many of which do not appear in SEPA’s FOI disclosure) – download [online here](#)

[3] Search for ‘Formalin’ via <https://www2.sepa.org.uk/disclosurelog/>



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### SEPA Disclosure Log

Reference	Subject	Date
F0191629	Finfish - Use of Formalin	12/05/2020

- Description:**

[1] Please provide information on the use of Formalin on salmon farms and hatcheries since 11 April 2019 .Please include data on the use of Formalin (and Formaldehyde). [2] Please also provide information on any objections, complaints and concerns regarding the use of Formalin on salmon farms and hatcheries. [3] Please provide information on discharges of Formalin, wastewater treatment of Formalin, environmental impacts and any mitigation strategies to deal with the environmental impacts of Formalin use. [4] Please include any emails, discussions and other information in relation to any media coverage including The Sunday Times, The Ferret and The Sunday National: [5] And any emails, discussions and other information in relation to blogs, press releases, Tweets and videos by Scottish Salmon Watch: [6] This FOI request would certainly include any complaints re. the use of Formalin/ Formaldehyde by Kames in Loch Tralaig [7] Please also include any photos, videos, sampling results, tests, data and any other information in relation to the use of Formalin (and Formaldehyde) on salmon farms and hatcheries since 11 April 2019.
- Information:**

Please refer to the attached
- Related documents:**
  - [EIR Response F0191629\\_r](#)
  - [RELEASE \(2\)](#)

Data via [RELEASE \(2\)](#)

[4]



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### SEPA Disclosure Log

Reference	Subject	Date
F0190275	Finfish- Chemical use (Formalin)	11/04/2019

- Description:**

Please provide information on the use of Formalin on salmon farms and hatcheries since 1 January 2017. Please include data on the use of Formalin (and Formaldehyde). Please also provide information on any objections, complaints and concerns regarding the use of Formalin on salmon farms and hatcheries. Please provide information on discharges of Formalin, wastewater treatment of Formalin, environmental impacts and any mitigation strategies to deal with the environmental impacts of Formalin use.
- Information:**

Please refer to the attached response letter and released information.
- Related documents:**
  - [F0190275 EIR Response - R](#)
  - [F0190275 ELMS - R](#)
  - [F0190275 sites](#)
  - [F0190275-Formaldehyde](#)

Data via [F0190275-Formaldehyde](#)

[5]



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### SEPA Disclosure Log

F0190713	Finfish-Chemical use (Formalin)	19/07/2019
<ul style="list-style-type: none"><li><b>Description:</b> 1) Russel Burn Hatchery (The Scottish Salmon Company) is not listed in the Excel spreadsheet F0190275 sites as one of the 184 fish farms licensed to use Formaldehyde (Formalin) but it seems clear that it is being used. Here's a video showing vats of Formaldehyde at the hatchery in June 2019: <a href="https://vimeo.com/344042944">https://vimeo.com/344042944</a> 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: 2) Re. the Excel spreadsheet detailing reported use of Formaldehyde in 2017 and 2018 (F0190275-Formaldehyde) surely there are other companies using it? Marine Harvest is the only company reporting use: For example, if you trawl through the Fish Health Inspectorate's 'Case Information' (online here) you will see numerous cases reporting the use of Formalin (cases which are not reported as in #2 above</li><li><b>Information:</b> Please refer to response letter.</li><li><b>Related documents:</b><ul style="list-style-type: none"><li><a href="#">F0190713 EIR Response Letter r</a></li></ul></li></ul>		

Letter via [F0190713 EIR Response Letter r](#)