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Revealed

Scandal of 45 Scottish lochs trashed by pollution

- Toxic pesticides from fish farms pose risk to human health and wildlife
- Contaminated lochs include Fyne, Linnhe, Broom, Ewe and Torridon

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Revealed: pollution leaves 45 lochs in Scotland a risk to human health

EXCLUSIVE
BY ROB EDWARDS
ENVIRONMENT EDITOR

AT least 45 lochs around Scotland's coast have been contaminated by toxic pesticides from fish farms that can harm wildlife and human health, according to data released by the Scottish Environment Protection Agency (Sepa).

Levels of chemicals used to kill the sea lice that plague caged salmon have breached environmental safety limits more than 100 times in the last 10 years. The chemicals have been discharged by 70 fish farms run by seven companies.

The pollution has been condemned as a "toxic timebomb" by environmental campaigners, who are lodging a formal complaint with the European Commission. The fish-farming industry, however, insists that it always tries to abide by the rules.

Sepa released a spreadsheet under Freedom of Information law showing the results of over 1,200 sampling operations at about 280 fish farms. It revealed that between 2006 and 2016 levels of anti-sea lice pesticides found in sediment 100 metres away from salmon cages exceeded environmental quality standards in 45 sea lochs and inshore waters.

They included Loch Linnhe, Loch Kishorn, Loch Nevis, Loch Ewe, Loch Torridon and 10 others in the Highland region. There were 11 contaminated lochs and waters in Argyll and Bute, including Loch Fyne, Loch Creran, the Firth of Lorn, and the sounds of Mull, Jura and Gigha.

Another 11 voes and firths around the Shetland Islands were polluted, as were seven in the Western Isles and Lamash Bay in North Ayrshire (see table). The companies named as responsible included Marine Harvest, Scottish Sea Farms, The Scottish Salmon Company and Grieg Seafood Shetland.

The main pesticide detected was emamectin benzoate. According to Sepa, it "is toxic to birds, mammals, fish and other aquatic organisms, particularly those living on the seabed".

Of its effect on human health, Sepa said: "Exposure to emamectin benzoate may cause irritation of the respiratory tract, eyes and skin. Animal studies suggest that exposure to emamectin benzoate may also cause tremors."

Another fish farm pesticide that breached environmental quality standards in lochs was teflubenzuron. It can harm shrimps, crabs and lobsters, and may affect the human liver.



THE 45 CONTAMINATED LOCHS

Inner Sound, Highland	Kilbrannan Sound, Argyll and Bute	Lax Firth, Shetland
Loch a Chairn Bhain, Highland	Loch Craignish, Argyll and Bute	Off Lunna Ness, Shetland
Loch Alsh, Highland	Loch Creran, Argyll and Bute	Olnafirth, Shetland
Loch Bracadale, Highland	Loch Fyne, Argyll and Bute	Ronas Voe, Shetland
Loch Broom, Highland	Loch Spelve, Argyll and Bute	Swarbacks Minn, Shetland
Loch Duich, Highland	Loch Tuath, Argyll and Bute	The Deeps, Shetland
Loch Ewe, Highland	Shuna Sound, Argyll and Bute	East Loch Tarbert, Eilean Siar
Loch Kishorn, Highland	Sound of Gigha, Argyll and Bute	Loch Boisdale, Eilean Siar
Loch Laxford, Highland	Sound of Jura, Argyll and Bute	Loch Erisort, Eilean Siar
Loch Linnhe, Highland	Sound of Mull, Argyll and Bute	Loch Roag, Eilean Siar
Loch Nevis, Highland	Cat Firth, Shetland	Loch Seaforth, Eilean Siar
Loch Sunart, Highland	Clift Sound, Shetland	Loch Shell, Eilean Siar
Loch Torridon, Highland	Clousta Voe, Shetland	Loch Skipport, Eilean Siar
Sound of Raasay, Highland	Colla Firth, Shetland	Lamash Bay, North Ayrshire
Firth of Lorn, Argyll and Bute	Dury Voe, Shetland	

Source: Scottish Environment Protection Agency

Vyvyan Howard, an emeritus professor of toxicology at Ulster University and a former government adviser on pesticides, was worried about the possible impact on health. "The main concern would be the long-term, low-dose effects," he said. "The risk is ill-defined, and it should be better defined, particularly if there are these inadvertent releases."

Dr Richard Luxmoore, senior nature conservation adviser to The National Trust for Scotland, warned that emamectin was a neurotoxin that could kill invertebrates and was "highly toxic" to birds and mammals. "The environmental standards have been put there for a good reason," he said.

"It is highly worrying that they have been breached so many times.

"This is yet more evidence that the chemical warfare waged by fish farms against sea lice has essentially been lost and the application of toxins to kill them is spiralling out of control."

Dr Sam Collin from the Scottish Wildlife Trust agreed emamectin was a major concern. "It's worrying that there have been so many breaches of the standards for its use," he said.

"This particular chemical stays in the marine environment for a long time and is capable of causing harm to a wide variety of sea life, in particular invertebrates such as shellfish."

Levels of chemicals used to kill the sea lice that plague caged salmon have breached environmental safety limits more than 100 times in the last 10 years
Photograph: PA

LEADER COMMENT
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Sepa's spreadsheet was obtained by the anti-fish farming campaigner Don Staniford of the Global Alliance Against Industrial Aquaculture. "Sepa is permitting salmon farmers across Scotland to pollute with impunity," he said.

"Breaches of environmental standards for chemical pollution under salmon farms are now becoming standard practice as Sepa shamefully turns a blind eye."

Staniford added: "Toxic chemicals from salmon farms have flooded Scottish lochs for over three decades contaminating shellfish and the seabed. Scottish salmon farming is a toxic time-bomb."

Salmon and Trout Conservation Scotland, which represents anglers, is referring the emamectin breaches to the European Commission in the belief that they contravene environmental law. "It appears that Sepa has been looking the other way and allowing excessive treatment chemicals to be used, which will have damaged the ecology of the sea lochs," said the group's Guy Linley-Adams.

"Sepa must use its statutory powers to order a reduction in the number of farmed fish allowed in the cages to a level at which the fish-farmers can control sea lice and, at the same time, stay within their pollution control licences."

The Scottish Salmon Producers' Organisation, which represents fish-farming companies, referred enquires to Sepa. "Our members at all times endeavour to operate within the terms of their consents," said the organisation's chief executive Scott Landisburgh.

Sepa said it did not have time last week to estimate how many lochs or fish farms had breached environmental quality standards. But it explained in detail how to work out when breaches had occurred.

A Sepa spokesman pointed out that contamination found 100 metres from salmon cages was unlikely to spread a significant distance. Sampling was timed to give a "worst case" in terms of the levels of pesticide in the sediment.

"Sepa's enforcement philosophy is to use the minimum amount of formal regulation necessary to secure compliance," he said.

"An exceedance of an environmental quality standard is not in itself indicative of non-compliant or illegal activity on the part of the operator and thus a breach would not necessarily precipitate significant enforcement action."

There were currently two instances in which fish-farm licences had been changed because of pesticide pollution. "Where cases are referred to the procurator fiscal these will be reported where the case results in a conviction," the spokesman said.

Protecting the natural beauty of Scotland is paramount

sundayherald

SCOTLAND and lochs are synonymous. Those huge, deep, primordial stretches of water that divide the land, reflect the hillsides and sparkle in the sun characterise who we are, and how we are perceived, at home and abroad.

They are famous across the world for their beauty, their grandeur and their mystery. They are marketed as pristine and pure, and attract thousands of tourists to boost Scotland's economy.

It comes as something of a shock, then, to learn that an astonishing 45 lochs have been polluted in breach of environmental safety limits over the last ten years. The pollution comes from the chemicals used by fish farms to kill the lice that plague caged salmon. The chemicals are also a risk to hu-

man health. This is not how it should be. If environmental standards are set, they should be met and enforced, not ignored. Unfortunately, however, the Scottish Environment Protection Agency (Sepa) is coming under fire – again – for not doing its job. Part of its remit is to help economic growth, and there are plans to double the size of the fish farming industry by 2030.

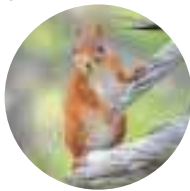
That now looks both unsustainable and unwise. Instead of promoting such growth Sepa and Scottish Government ministers should be thinking about how to curb pollution by limiting the size of fish farms.

Of course the industry brings its own economic benefits, but these should not be at the expense of one of Scotland's most precious assets – our beautiful environment.

Faces of the week



Actor **Helen Mirren** spoke of her "ongoing battle" with self-esteem. At the launch of L'Oreal's All Worth It campaign, which aims to boost young people's self-worth, she said: "It's not an age thing. I know it's the hardest when you're young, but it's not something that you miraculously grow out of. It's an ongoing battle that one has with oneself and the world about you."

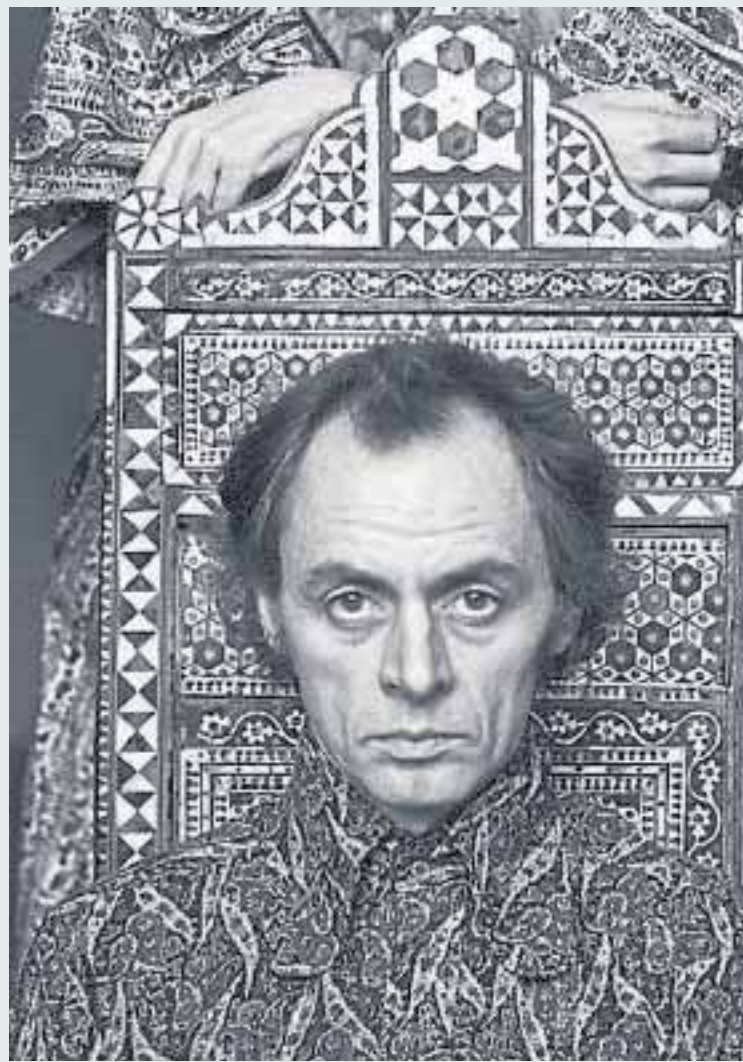


Tuffy has been granted a lifeline, with a £2.5m Heritage Lottery Fund to train volunteers around Scotland to help protect red squirrels from non-native greys. The cash will be partly used to help "detect and remove" grey squirrels, which threaten the smaller reds, from areas with significant red populations, including Aberdeenshire, the central Lowlands and southern Scotland.



Teenage heartthrob **David Cassidy** has dementia at 66. The US singer and actor said "part of me always knew this was coming" after he watched his mother "disappear" into the disease. Following a shambolic gig when he struggled to remember chords or lyrics, he's decided to stop touring in order to "focus on who I am" and "enjoy life".

Inside the very weird world



Why has the SNP failed to tackle the serious issue of drug-driving?

TODAY, doctors' association BMA Scotland becomes the latest organisation to back the Sunday Herald's campaign for new legislation to tackle drug-driving.

A recent analysis of fatal accidents involving drivers showed the same number died after using cannabis as those who died after drinking. The research led to calls for the Scottish Government to follow England and Wales by introducing drug-driving limits and roadside tests.

But so far the only response from the Scottish Government has been to say it is waiting for an evaluation of how the measures in England and Wales are working. Of course, making sure there is sufficient evidence is a wise move, but there

has already been a major review, a consultation exercise across the UK and the example of thousands of arrests and convictions in the first year of the legislation south of the Border.

The Scottish Government took the welcome step of becoming the first country in the UK to lower the drink-drive limit to make our roads safer. When it published a consultation on drug-driving in 2013, then-justice minister Kenny MacAskill even stated: "We must not lose sight of the problems caused by drug-drivers."

This makes the decision to procrastinate even more baffling. The Scottish Government needs to urgently tackle the menace of drug-driving and ensure it becomes as socially unacceptable as drink-driving.

Police must tighten purse strings

IN December, Audit Scotland published a report that should worry anyone with an interest in the future of policing.

The watchdog projected a potential long-term deficit of £188 million in policing finances and warned of continued "weak financial leadership in both the SPA and Police Scotland".

The report confirmed what politicians have long feared: Police Scotland may be locked into a spiral of cuts and decline. With this as context, the single force must deliver sound financial management by ensuring that every penny spent can be justified.

However, as we report today, the cash-strapped force can still find sizeable sums of money for purposes some would find questionable.

As is well known, the force illegally used its spying powers in a failed bid to flush out a journalist's sources on the murder of sex worker Emma Caldwell. This sorry saga led to an Investigatory Powers Tribunal which was called to discuss "remedies" for the affected individuals. Instead of using an in-house lawyer, Police Scotland turned to a high-profile QC who had worked for another force on the Hillsborough case. Hiring Johnson cost Police Scotland nearly £14,000.

Since 2013, the force has laid off civilian staff and made other savings cuts. And yet, Police Scotland found money in its budget to pay for a QC to work on an issue that disgraced the force. Chief Constable Phil Gormley needs to get a grip on the purse-strings – and fast.

Pay up and save the NHS Titanic

I WORKED in frontline NHS services for 40 years, and for at least the last 20 of these there was underfunding, understaffing and under-resourcing ("Our NHS is rising to the challenges", Letters, February 19). The reasons include the much greater complexity of care and treatments available; increased survival of older people; and failure to train enough of our own doctors and nurses.

Most NHS staff pull out the stops to make patients' care excellent and timeous, but are severely constrained by inadequate resources. While each government has promised "better care", none has succeeded. While each claims a real-term increase in funding, this doesn't cover the increasing cost of running our NHS, and year-on-year three to five per cent savings must be made by each health board. How do they make these savings? By trimming staff and

resources. Successive governments claim "this won't reduce the service, we'll make the service more targeted and efficient". This is code for "we can't make it better, but we'll try to pull the wool over your eyes".

Why not take the NHS out of political hands? It has been used as a political football by every government, always to the detriment of care. Secondly, as one of the world's wealthiest nations, only placing more of our relative wealth into our public services will allow the NHS to blossom. We should be willing to pay that cost by a significant increase in our taxes.

The trouble is, no political party is willing to propose this. Instead we tinker around at the margins while the NHS Titanic sinks further into the realms of poor care despite loyal, hard-working staff. I am glad Ruth Marr had such good care, but countless others have waited months, sometimes years for appointments or treatment. We must not pretend that "all is well", for it is certainly not.

*Alasdair HB Fyfe
Glasgow*