CALLANDER McDOWELL

Wild salmon may be one of the things that makes Norway Norway and preserving the species for the future may be the aim of the white paper but that is not the same as making sure that salmon fishing does not become a thing of the past. Is it more important for Norway that the white paper protects wild salmon or the salmon fishing? The Minister of Climate and Environment, Andrea Bjelland Eriksen, attended the Wild Salmon Connections meeting in London during January 2025 and gave a keynote address. What was clear was that the focus of the two-day event was the protection of salmon fishing, not the salmon.

The call for representations to help drawing up the White Paper states that Norwegian salmon stocks are at a historically low level and there are no signs of improvement despite restrictions on fishing in recent years. This is not surprising because the recent restrictions are a case of too little to late and have not been helped by a focus on salmon farming as the primary cause of the declines.

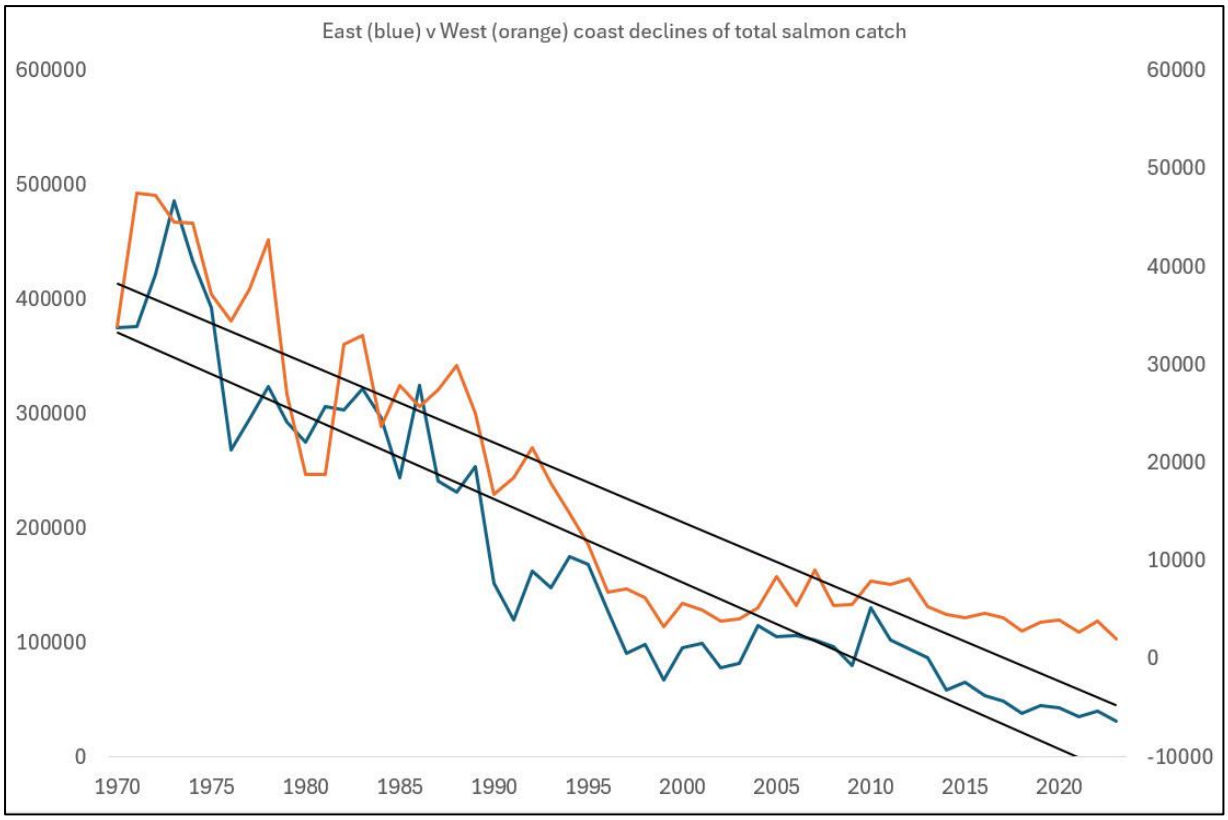
For many years, Vitenskapelig råd for lakseforvaltning (VRL) have decreed that sea lice associated with salmon farming have had the greatest impact on wild salmon stocks in Norway. However, VRL last tried to quantify the damage in 2019 which is nearly seven years ago. In 2019, VRL said that they estimated the loss of yield due to sea lice of approximately 39,000. Also in 2019, anglers caught and killed 83,179 wild salmon of average weight 3.5kg as the fish returned to their home river to breed but were prevented from doing so by the premature death. A further 46,24 wild salmon were caught by commercial netsmen making a total loss of 129,421 wild salmon. VRL refuse to explain how an estimated loss of 39,000 smolts, none of which they can prove died, because of sea lice infestation, is a greater threat to Norwegian wild salmon populations than the loss of 129,421 mature adult salmon.

It is easy to see why VRL believe that salmon farming is the greatest threat to wild salmon. A Havforskningsinstituttet researcher wrote in the introduction to the NOK 45 million Hidden Toll of Lice project that ‘wild salmon are declining throughout their range and are believed to be at a historic low. In Norway, this **coincides** with a tremendous increase in farmed salmon production. Just because there is a coincidental change does not prove causation.

The problem is that salmon farms are present along the length of Norway’s coast and therefore is not possible to compare salmon populations in areas where there are, and where there are not, salmon farms. However, it is possible to do this in Scotland where

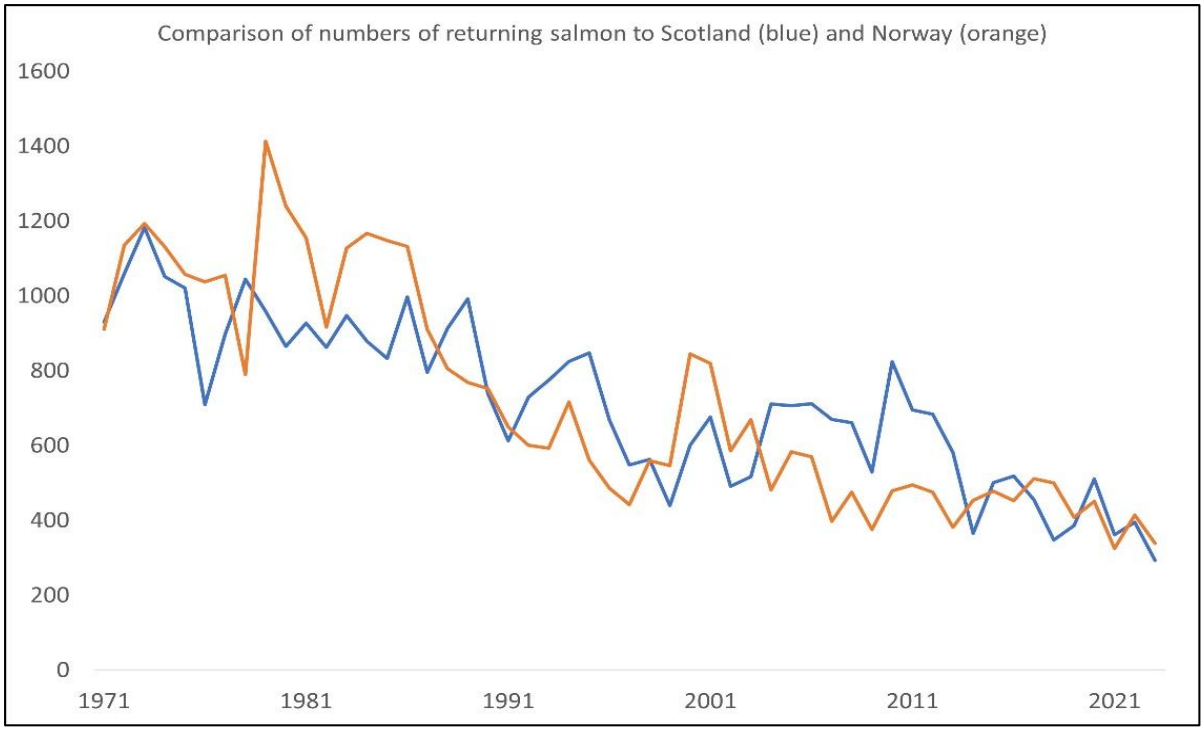
salmon farms are restricted to the Atlantic west coast meaning that the North Sea east coats, where all the iconic salmon rivers, such as the Spey, Tay and Tweed, are located remain totally free of any salmon farming activity.

The following graph shows the rate of decline of salmon exploitation from rivers in the salmon farming areas (blue) and the salmon farm free area (orange).



The rate of decline for both areas is clearly very similar so if sea lice and salmon farming is responsible for the decline in the west, what is causing a similar rate of decline in the east. This question was posed to the scientists of VRL and the Expert Group to which there was no reply.

According to the International Council for the Exploration of the Seas (ICES), wild salmon populations have been in decline since at least 1971 as shown in the following graph.



The orange line is the decline in fish returning to Norwegian rivers and the blue line, of fish returning to rivers in Scotland. What is interesting is that whilst Norwegian salmon farm production is ten times greater than in Scotland, the numbers returning to both countries are very similar, when the loss due to salmon farming, would be expected to be much greater. In addition, in 1982, eleven years after this series began, total farm salmon production across all of Scotland had reached just one thousand tonnes.

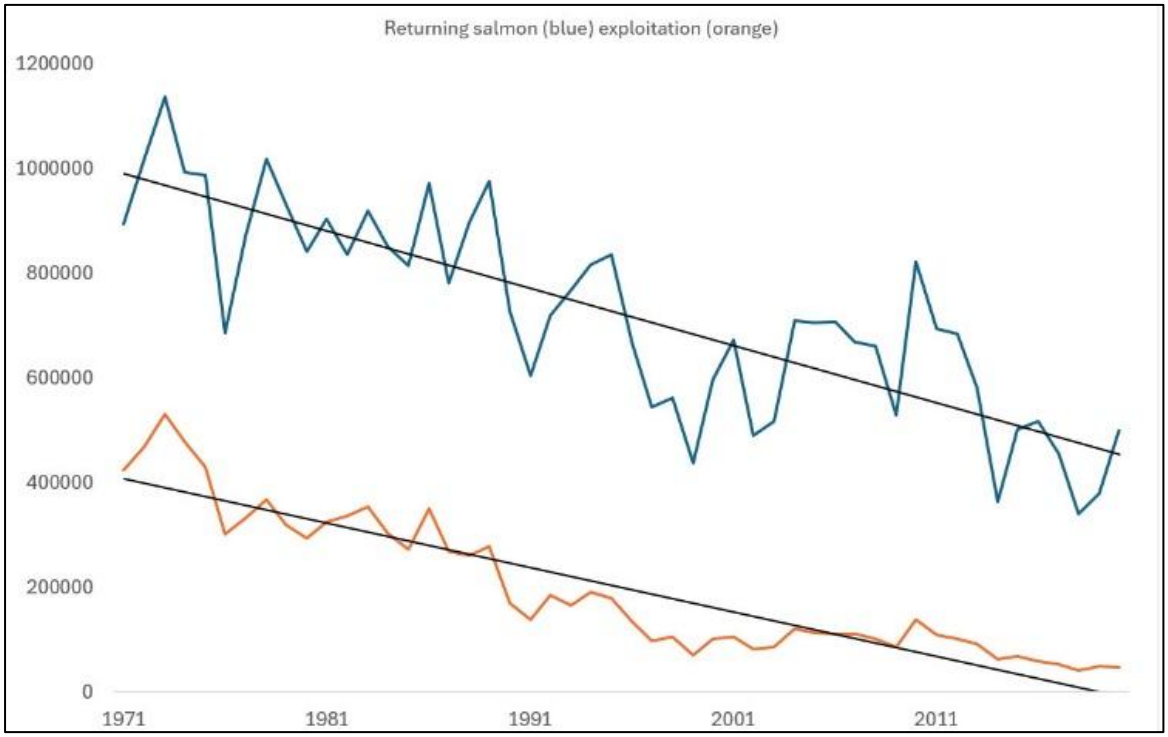
The graph shows that the rate of decline of fish returning to their home rivers is relatively consistent. This would indicate that whatever is causing the decline has been affecting wild salmon consistently for over fifty-five years. VRL highlight a number of man-made pressures on wild salmon such as water abstraction, acidification and habitat alteration but they do not consider factors that are not made such as predations by seals of birds. The reality is that it is unlikely that any of the human-caused pressures are responsible for the decline in wild salmon either singly or together.

In 2017, the late King Harald V of Norway joined the then Prince of Wales, now King Charles III to celebrate the 50th anniversary of the Atlantic Salmon Trust at a gala event. The then Prince of Wales said that 'thirty years ago (1990s) one in four wild salmon would make it back to their home river to breed. Now the number is one in twenty, yet we do not know why this is happening'.

In 2026, nearly nine years later, we still do not know why this is happening and there is very little effort being made to find out because organisations like VRL are so convinced that salmon farming is the cause of the decline, they are not interested in looking elsewhere.

The question is what has caused a consistent pressure on wild fish stocks over a fifty-five-year period. The most obvious candidate is exploitation both by rods and nets. Interestingly, VRL include over-exploitation in their list of human-caused pressure but not exploitation. When does exploitation become over-exploitation?

The Scottish Government has collected catch data from both rods and nets since 1952 and thus have a reliable record of catches. When the total exploitation of wild salmon for all of Scotland is plotted against the ICES data for returning fish, the two trend lines are almost parallel.



What is unclear is whether the reduced number of fish returning to their home rivers is driving the decline on salmon catches or whether it is the high level of exploitation that is driving the decline of returning fish. There is plenty of evidence from other types of fisheries where over-exploitation has led to the fishery collapse. The cod fishery off the Grand Banks is the primary example. This is relevant at a time, when cod stocks around Norway are also in decline. In Scotland, where long-term data is available, since 1952, 3.6 million wild salmon have met a premature death from exploitation. Anglers in Scotland today claim that their catch and release policy in which over 90% of fish are returned to the water and are not killed is evidence that angling is not to blame for the current crisis. The reality is that the damage was done long ago and since 1994 when catch and release was introduced, has been a case of too little action taking place too late.

Exploitation is however not the only long-term impact on wild salmon stocks When declines were first recorded in the early 1970s, another major event was taking place in the North and Norwegian Seas. This, like salmon farming, may be just a coincidence in

timing, but there is increasing evidence of a potential impact. The early 1970s saw the development of oil and gas fields and whilst these developments are unlikely to have had a direct impact, there are other potential impacts associated with the oil industry.

The most concerning is seismic surveying in which a seismic air gun, towed by a boat, regularly fires off large explosions of compressed air. It is well known that these guns can negatively impact marine mammals such as whales and dolphins. This is why these boasts must carry an observer who can demand the survey work is stopped if such mammals are sighted. In the case of salmon, the theory is that the explosions can disrupt the magnetic navigation systems, throwing the fish off course and resulting in them being lost at sea.

Seismic surveying has continued for the 1970s to the present day and could account for the long-term decline of wild salmon. It is not difficult to test this theory, but the wild fish sector has refused to consider this possibility because they claim it is only a ploy to deflect attention away from salmon farming.

Exploitation and seismic surveying are the only two long term pressures on wild salmon overt the fifty-five years salmon have been in decline. It is possible something else is happening at sea that might be responsible for the decline, but there has been no attempt to investigate what other, possibly unknown, pressures might exist.

If Norway wants to save wild salmon, then there needs to be a proper discussion about all the pressures as well as a willingness to listen to and consider the evidence and science that shows that the focus on salmon farming is simply hastening the decline of these iconic fish.

More detail about any of the points raised is available on request.

Dr Martin Jaffa

mrj@callandermcdowell.co.uk

44 7944 996 552

10th October 2026