

## The Decline of the South-West Highlands Salmon Fishery

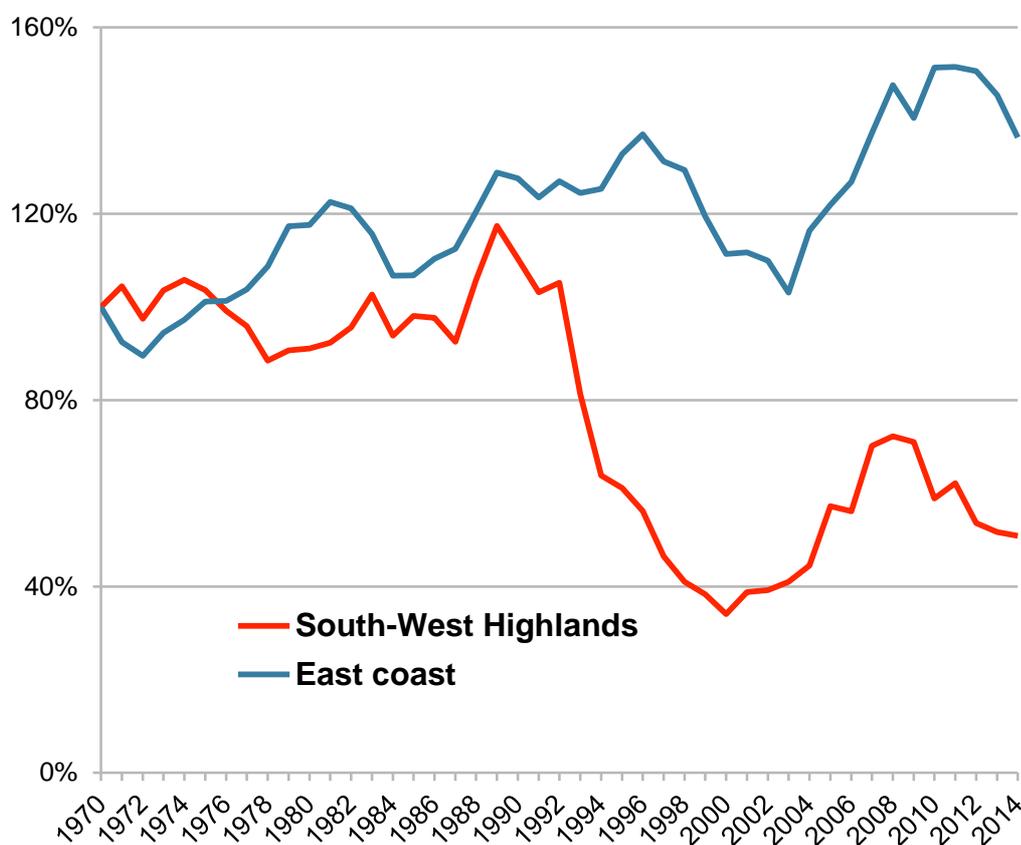
### East v West

In an attempt to quantify the effect of salmon aquaculture, a comparison can be made between rod catches of salmon on the East coast of Scotland and the coast between the Mull of Kintyre and Ardnamurchan Point (South-West Highlands).

The statistics available are the government's annual catch statistics. The base date chosen was 1970 since that was the starting point chosen by the Scottish Salmon Producers Organisation (SSPO) to try to prove there has been no effect. The SSPO study included the catches from coastal nets which in 1970 dominated the catch statistics with over 80% of the total catch. The coastal net fishery declined by over 95% between 1970 and 2014 and has now been closed by the government. The decline of the net fishery dominates the statistics and hides any other effects but since it has been eliminated equally on both coasts it is possible to compare the rod catches to see the effects.

It would be expected that, as the net fishery declined, more fish would be caught by the rods.

### Trends in rod caught salmon

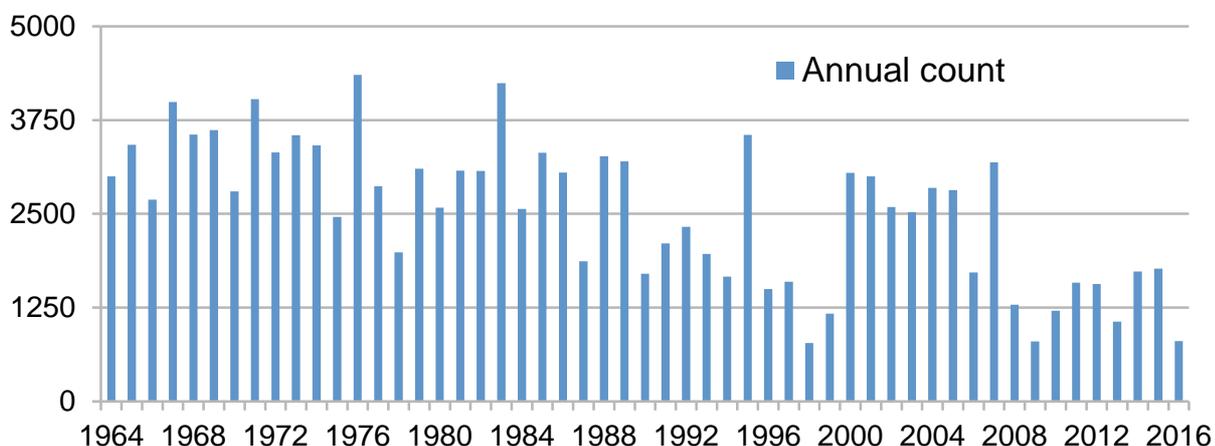


Using the base date of 1970 the rod catches on the East coast have increased by almost 40% by 2014. Over the same time period the catches in the South-West Highlands have declined by 50%.

Other points to note are that, whilst the South-West Highlands did not initially follow the upward trend of the East, the decline did not start until the 1990s when it was rapid and extreme. Secondly there is some similarity in the peaks and troughs of both trend lines that indicate that both are being affected by some common issues. There are problems causing a general decline in sea survival which are affecting both fisheries but something additional and dramatic is affecting the South-West Highlands.

## The River Awe

There are only two major rivers in the South-West Highlands – the Awe and the Lochy. The Awe is a short river with an artificial compensation flow from a hydroelectric dam. Above the dam is the longest loch in Scotland, Loch Awe, and the River Orchy. There is a fish lift and a counter in the dam. The flow is such that fish can run the river any day of the year and almost all the fish are destined for the headwaters so there is a full river count which is almost unaffected by the weather.



If we consider the annual count trend from the building of the hydro dam in the early 1960s, there is no real decline in the count until the 1990s when it drops steadily to an all time low in 1998. There is a recovery in the early 2000s but it then drops and from 2008 onwards runs at about half the former level. 2016 was the worst since 1998 and 2017 is going to be the all time record low.

All rivers have different characteristics and one feature of the Awe is that it enters the sea in Loch Etive which is so brackish that there are no salmon farms (although there are rainbow trout farms). The lack of any salmon farm in the sea loch protected the emerging smolts to some extent whilst salmon farming was at a much lower level. Now that there are many more salmon farms that the smolts will pass on their migration route, they are being infected by sea lice on their way to the feeding grounds of the North Atlantic and sea survival is significantly reduced.

## Discussion

When aquaculture began in Scotland the dangers to wild salmon of the sea lice from the farms was not understood and farms were sited near to salmon rivers and on the likely migration routes. The rivers near the farms were quickly affected and catches declined. As the industry got better control of the lice the effects on the local river was reduced but the growth of the industry meant that wild smolts had to pass many more farms on their outward migration. This has meant that those rivers further south on the West coast with many more farms between them and the North Atlantic are being increasingly affected and sea survival is much worse than the East coast and even the rivers North of Ardnamurchan. As the aquaculture industry grows and simultaneously struggles to control the lice on the farms, the problem is increasing and the salmon returns this year are likely to be the worst of all time.

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