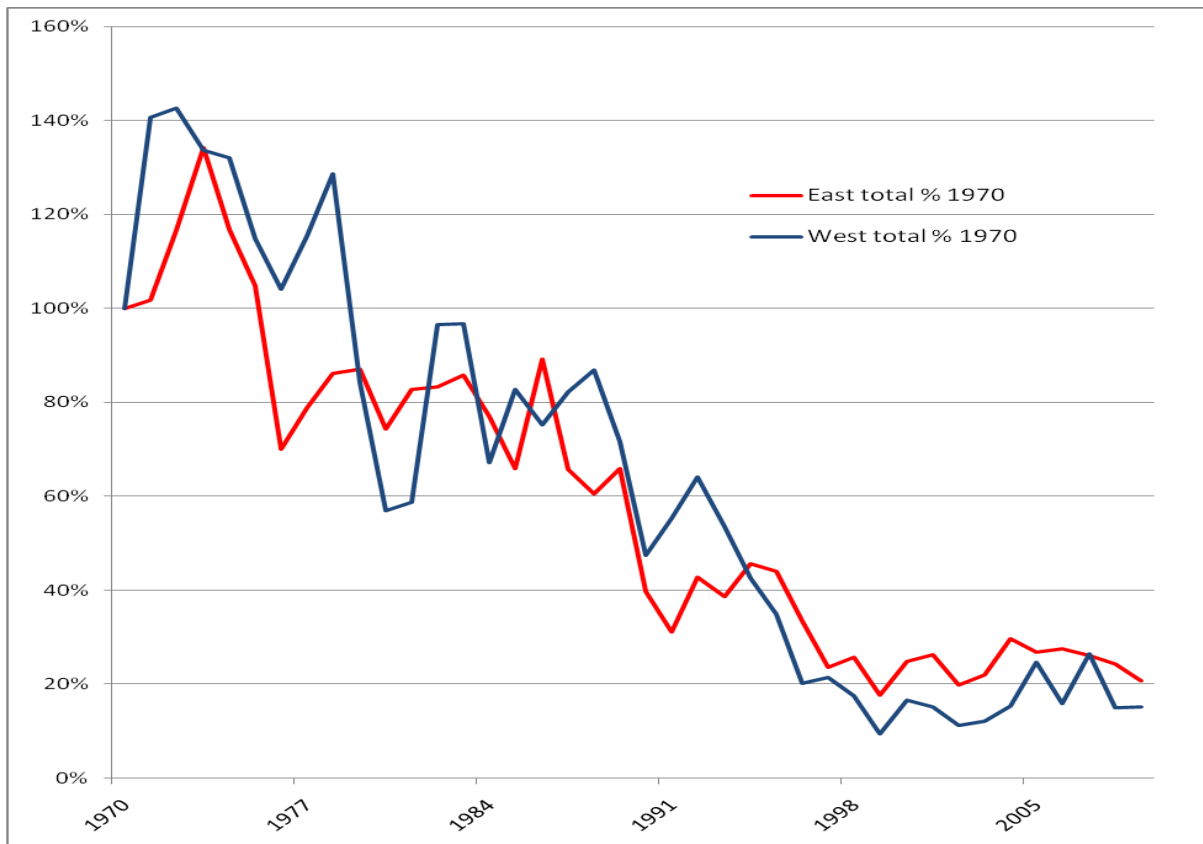


Comparison of the decline of Scottish East and West Coast Salmon Fisheries

A paper entitled “Salmon Farming and Wild Salmon Catches: Let’s Focus on the Facts”, published on the new website of the Scottish Salmon Producers’ Organisation (SSPO), claims that “there is no difference between the pattern of decline in west coast and east coast salmon catches”. A number of possible explanations for this decline are given by SSPO: reduced survival of salmon during their marine migration phase and the contraction of ocean feeding grounds as a result of climatic and ocean-current changes. We do not dispute that there is an issue with marine survival – indeed, we agree that the expectation would be that these pressures would be largely the same for salmon originating from both the East and West coasts.

The SSPO have produced a graph of the relative decline of the two coasts from 1970 to 2009 in order to substantiate their claim. However, the data used to produce this graph uses catch statistics from the entire west coast, from Cape Wrath to the Solway. This includes a substantial area (notably the Solway and Ayrshire rivers) where there is no salmon aquaculture. Below, we have repeated this exercise, using data only from the main “aquaculture coast” from Cape Wrath to the Mull of Kintyre (including the Inner and Outer Hebrides). Figure 1 shows that, if catches by all methods (including nets) are used, the trend remains consistent with that demonstrated by the SSPO.

Figure 1



Decline in Scottish wild salmon catches by all methods of fishing (1970 = 100%) for east coast and the main aquaculture west coast (Cape Wrath to the Mull of Kintyre including the Hebrides). Data taken from the Marine Scotland annual catch statistics.

However, this method of comparison gives us a misleading picture due to the inclusion of catches from nets. It may seem reasonable to include the total catch by all methods of fishing but the catches from nets decline in a very different way to catches in the rod fishery.

In the rod fishery, as catches decline, anglers still continue to fish and the catch can be assumed to be roughly proportional to the decline in numbers of fish returning to the rivers.

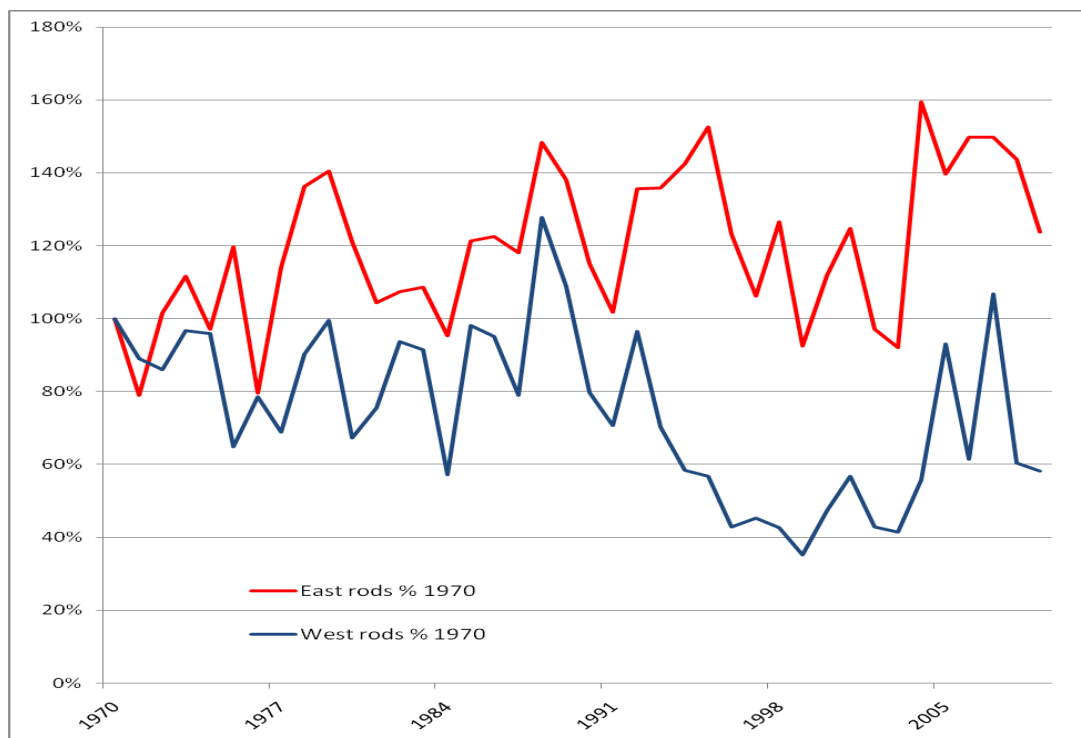
Net fisheries react differently. Some fisheries are bought out by proprietors, not because of a decline in catches, but because the rod fishery is more valuable. Other stations cease operations for conservation reasons or because they become uneconomic. In either case the net catches of salmon stop suddenly and completely. Unlike the rod fishery, the decline in the net catches is not proportional to the numbers of returning fish.

In 1970 the nets took 86% of the east coast catch. This net fishery has declined by 96%. The nets on the aquaculture coast took 76% of the catch. This net fishery has declined by 98%. Because the east coast net fishery was larger and has declined by a similar amount it has made the total decline on the east coast look worse than the west coast.

The net catch figures make a comparison complicated but there is a very simple way to look at the relative figures. The decline in the net fishery should have resulted in more fish entering rivers and being available to the rods. If we compare the relative rod-only catches we can see the real differences between the different areas.

Firstly, compare the rod catches from 1970 between the east coast and the aquaculture coast.

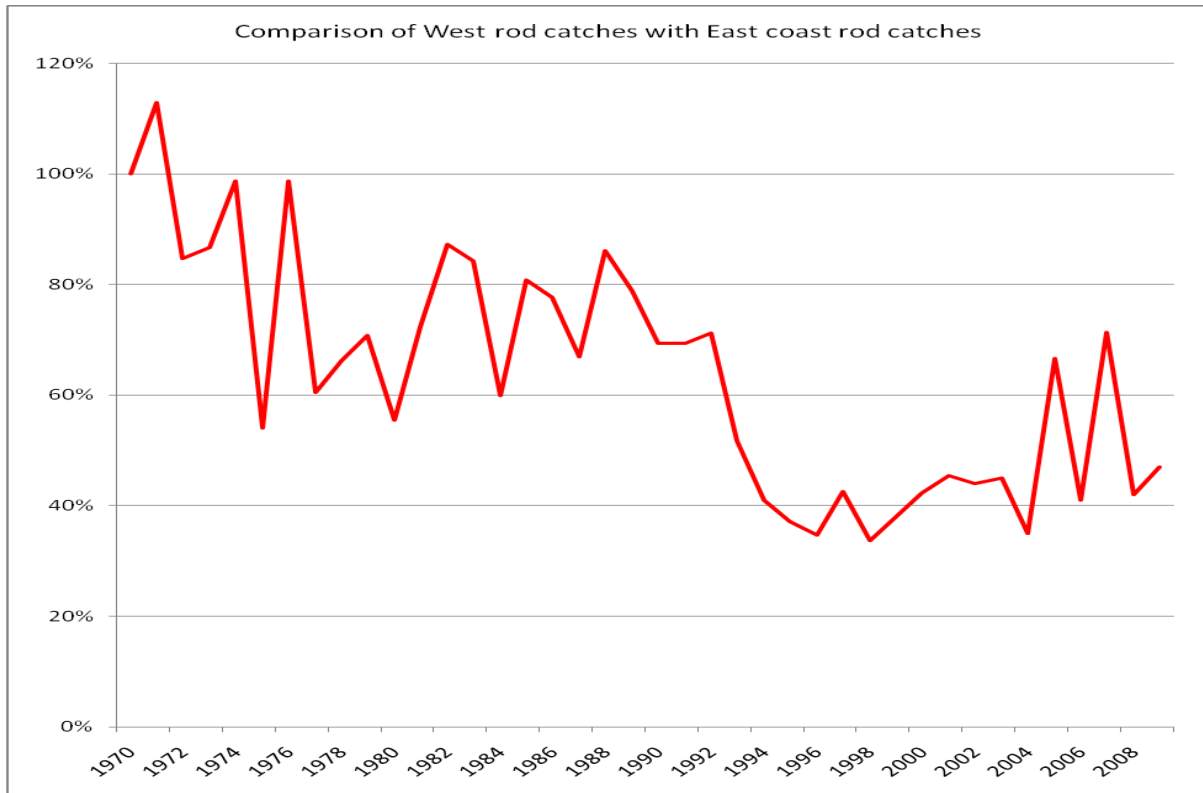
Figure 2



Decline in Scottish wild salmon catches by rod (1970 = 100%) for east coast and west coast (Cape Wrath to the Mull of Kintyre including the Hebrides). Data taken from the Marine Scotland annual catch statistics.

Figure 2 demonstrates the true difference between the two fisheries. As the nets have been removed from the analysis and, despite the issues with marine survival, the east coast rod catches are up by 24% between 1970 and 2009. In the same period the rod catch on the aquaculture coast is down by 42%. The comparison can be seen more clearly if, as SSPO suggest, we compare the West coast with the East coast as a reference. The relative decline of the West coast rod fishery is 53%.

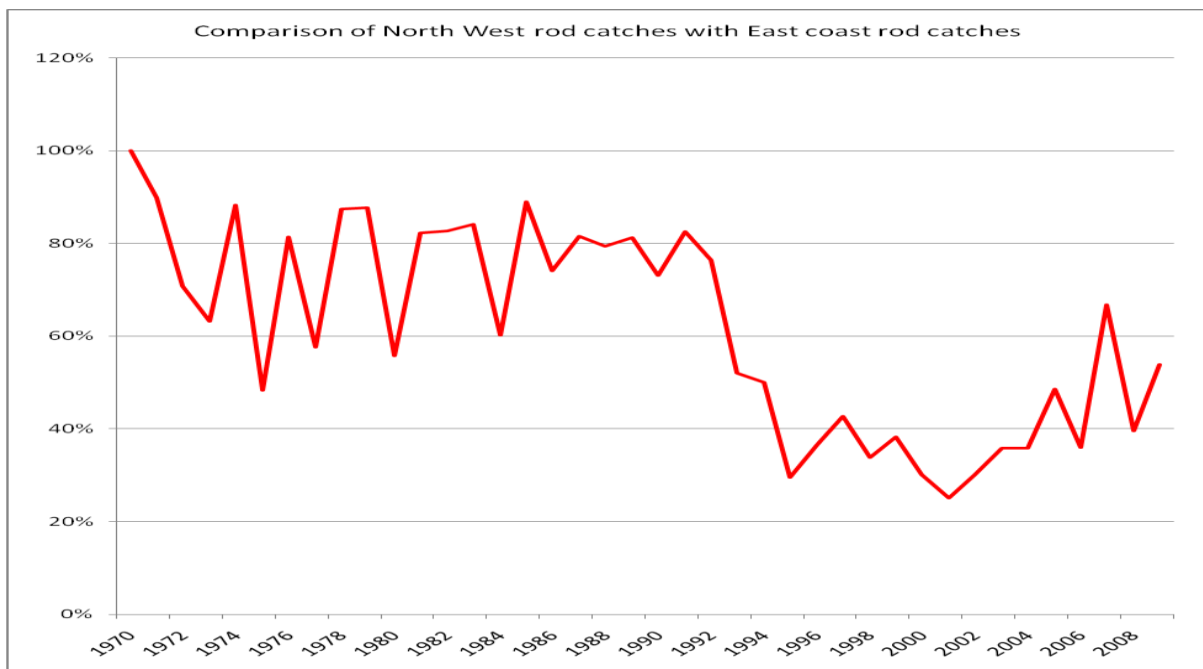
Figure 3



Decline in Scottish wild salmon catches by rod (1970 = 100%) in the aquaculture west coast (Cape Wrath to the Mull of Kintyre including the Hebrides) compared to east coast (Tweed to Cape Wrath) as datum. Data taken from the Marine Scotland annual catch statistics.

In recent years there has been an increased focus on the effect of aquaculture on wild Atlantic salmon where the smolts, on leaving the river, have to run the gauntlet of many farms on their route to the open ocean. Whilst the exact migration routes of the smolts are not known, it is reasonable to assume that fish leaving the rivers of Argyll and Lochaber are affected by more farms than those of the Outer Hebrides and the North West (the latter locations are closer to the open ocean). To examine this we have broken down the aquaculture coast into the Outer Hebrides, the North West coast from Ardnamurchan to Cape Wrath (including Skye) and the Mid West from Mull of Kintyre to Ardnamurchan (including Mull). In order to make the best comparison we have followed the SSPO's model of comparing these areas with the East coast rod catch.

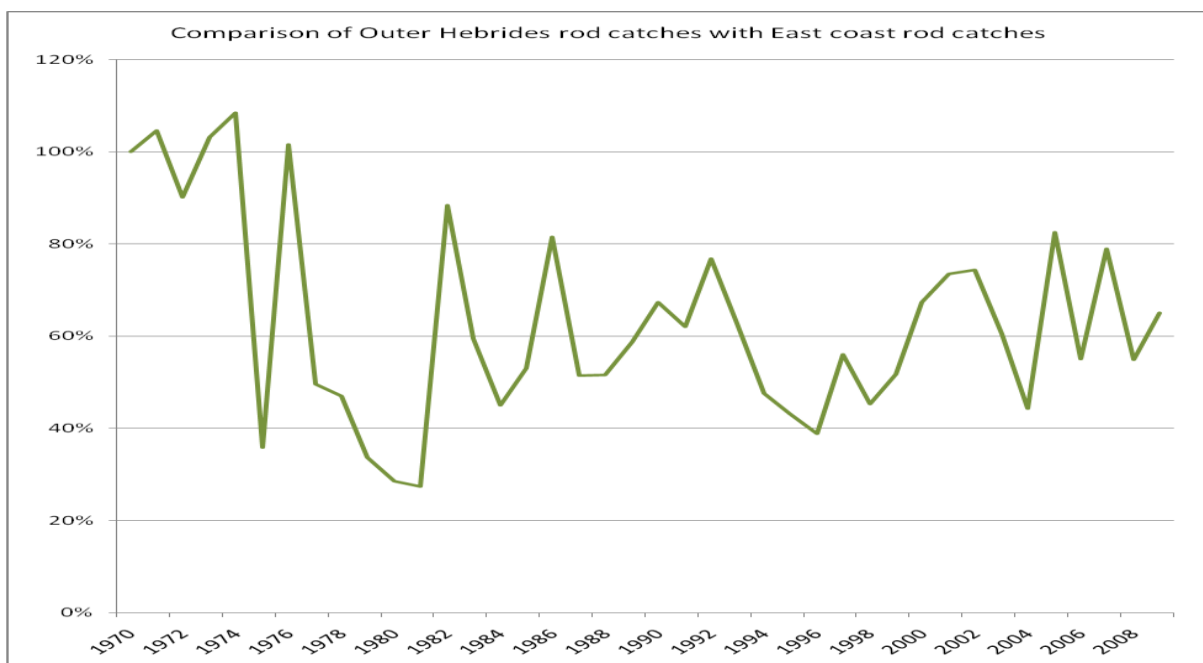
Figure 4



Decline in Scottish wild salmon catches by rod (1970 = 100%) north west coast (Cape Wrath to Ardnamurchan) compared to east coast as datum. Data taken from the Marine Scotland annual catch statistics.

Figure 4 demonstrates that the North West rod catch has declined by 46%. Despite signs of a slight improvement over the last five years the overall trend from 1970 to 2009 is a decline of approximately 40%.

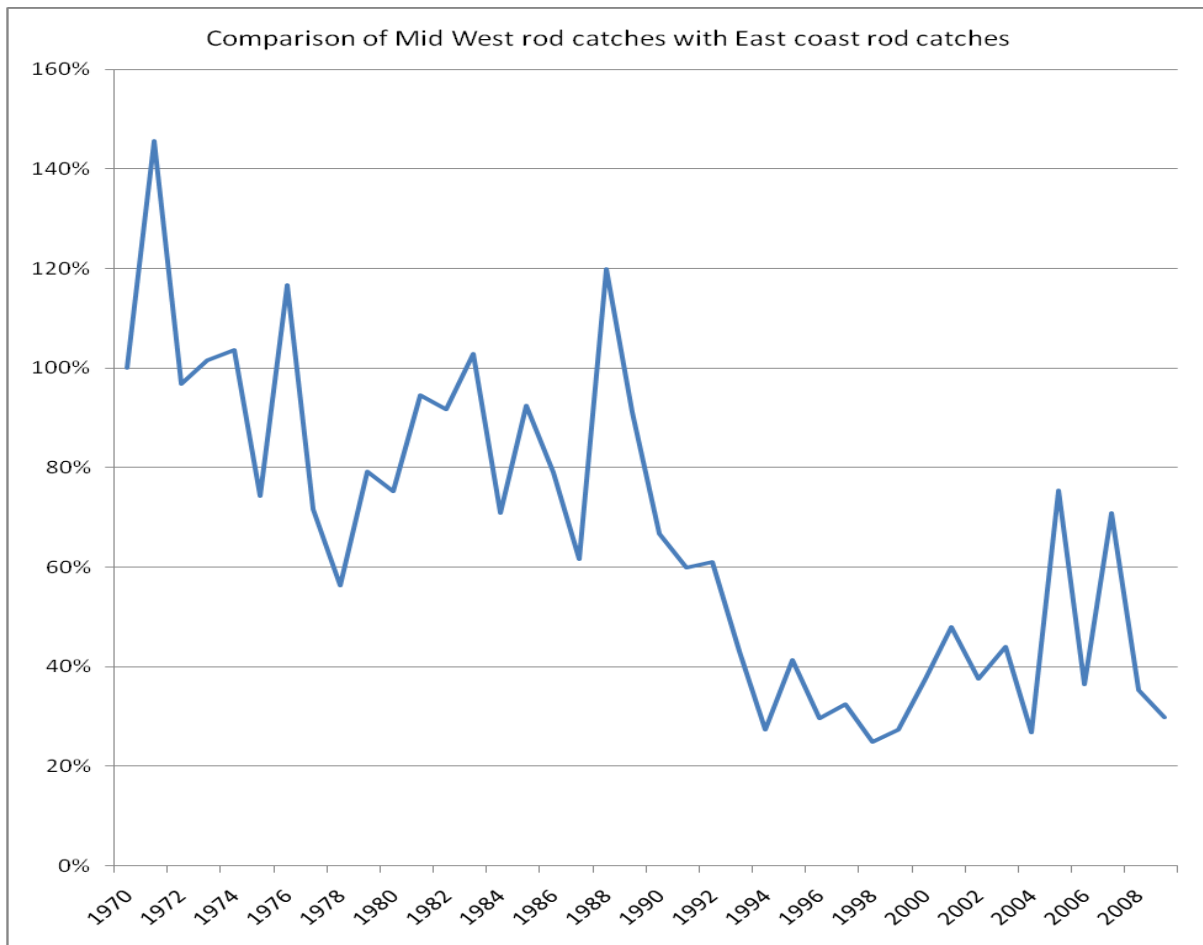
Figure 5



Decline in Scottish wild salmon catches by rod (1970 = 100%) Outer Hebrides compared to east coast as datum. Data taken from the Marine Scotland annual catch statistics.

Following a very significant decline between 1970 and 1980, there was a slight recovery and the overall trend for the Outer Hebrides suggests a decline of approximately 40%.

Figure 6



Decline in Scottish wild salmon catches by rod (1970 = 100%) mid west coast (Ardnamurchan to the Mull of Kintyre) compared to east coast as datum. Data taken from the Marine Scotland annual catch statistics

The Mid West rod catches have declined steeply since the mid 1980s and, despite some variation, the overall trend suggests a decline of 70% between 1970 and 2009. This does indicate a correlation between the decline of the rod fishery and the numbers of salmon farms the emerging smolts have to pass in order to reach the open ocean to the North.

Conclusion

There is a clear trend of declining salmon catches, compared with catches on the East coast, in areas where the Scottish aquaculture industry operates. The assertion by SSPO that *'the catch statistics show salmon farming has had no effect on wild salmon catches'* does not stand up to scrutiny. It is also apparent that the decline is greater for those areas whose juvenile fish have to swim past larger number of salmon farms in order to reach the open ocean.