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# UK Fish Landings in Global Terms

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# Summary

UK fishing boats landed some 700,000 tonnes of marine fish and shellfish in 2018. That was less than 1% of the global total and ranked the UK 25<sup>th</sup> in the world for landings. It is estimated that if UK boats had caught a substantial proportion (84%) of the fish and shellfish landed from the UK exclusive economic zone (EEZ) in 2018 their landings would have been well over twice what they actually were, and the UK would have ranked 13<sup>th</sup> in the world for landings, even if UK boats were unable to catch any fish elsewhere in the EU EEZ.

Examination of long-term trends shows that landings by UK fishing boats generally declined over the last seven decades, falling by 50% between 1952 and 2008. Despite a small recovery since, then landings by UK boats remain well below what they were in the 1950s. As a result, the UK's share of global fish landings fell from 6% to below 1% and its world ranking for landings from 6<sup>th</sup> to 25<sup>th</sup>.

In contrast, landings by other EU member states' fishing boats increased substantially (more than doubled) during the 1950s and 1960s. Although they decreased significantly after the 1980s their landings in 2018 remained almost 50% greater than they were in 1950.

# Introduction

Previous analyses have shown that a substantial proportion (>70%) of the fish and shellfish landed from the UK Exclusive Economic Zone (EEZ) has been caught by non-UK fishing boats allowed access to the UK EEZ under the Common Fisheries Policy or through agreements made by the European Commission with third countries<sup>1</sup>.

A new analysis has been carried out using data on global landings of marine fish and shellfish to evaluate where UK fish landings rank in global terms, and where they might have ranked if UK fishing boats had been able to catch all of the fish and shellfish landed from the UK EEZ.

These data have also been used to investigate long-term trends in landings by UK and EU fishing boats over the last 70 years.

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<sup>1</sup> Napier, Ian R. (2020). *Fishing Landings from the UK EEZ: 2015 – 2018*. NAFC Marine Centre. Available at: <https://www.nafc.uhi.ac.uk/research/statistics/eez-reports/eez-report-2020-07/>

# Data and Analyses

This analysis utilised data on global fish catches published by the Food and Agriculture Organisation of the United Nations (FAO) through the FishStatJ software package<sup>2</sup>. Specifically, the analysis used the 'Global Capture Production Quantity (1950-2018)' dataset within the 'Capture Production 1950-2018' workspace.

These data were aggregated and filtered using the FishStatJ software to obtain the total annual global landings (live weight) of marine fish and shellfish by each nation. This excluded aquaculture, production of marine plants and other marine animals and products and catches from 'inland waters'. The total weights for the UK included landings by fishing boats of the Isle of Man and Channel Islands. Total weights for the European Union (EU27) were obtained by summing the weights of landings by the 27 EU member states.

Estimates of the quantities of fish landed from the UK Exclusive Economic Zone (EEZ) and by UK fishing boats from the EU27 EEZ were taken from a previous analysis of data published by the European Commission's Joint Research Centre (JRC) and the UK Marine Management Organisation (MMO)<sup>3</sup>.

The weights of fish and shellfish landed globally by UK fishing boats obtained from analysis of the FAO data were slightly greater than those obtained from the previous analysis of MMO data. This appears to reflect differences in the underlying data for certain species but were generally small (<1.5% overall) and insufficient to substantially affect the results of this analysis.

## EU Member States

Throughout this report 'EU27' refers to the 27 current members of the European Union. Only 22 of those states recorded landings of marine fish; the remaining five EU member states are land-locked and have no marine fishing industries (Austria, Czech Republic, Hungary, Luxembourg & Slovakia).

For the purposes of determining long-term trends the landings by current EU member states were totalled for each year regardless of whether or not each state had actually joined the EU by that time. A small number of EU states were omitted from the analyses of long-term trends as no catch data is available for them prior to their becoming independent states (Estonia, Latvia and Lithuania in 1988; Croatia and Slovenia in 1992).

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<sup>2</sup> Fisheries and aquaculture software. FishStatJ - Software for Fishery and Aquaculture Statistical Time Series. In: FAO Fisheries Division [online]. Rome. Updated 22 July 2020. See: <http://www.fao.org/fishery/statistics/software/fishstatj/en>.

<sup>3</sup> Napier (2020). See footnote 1 on page 2.

## Scenario Analyses

To investigate the magnitude of landings from the UK EEZ by non-UK boats and their potential effect on the UK's global fish landings the FAO data was combined with the results of the previous analysis of JRC and MMO data to estimate how much fish the UK fishing fleet would have caught in 2018 under two alternative scenarios:

- ◆ The 'Norwegian Scenario': UK boats caught 84% of the fish and shellfish landed from the UK EEZ in 2018 (non-UK boats caught 16%)<sup>4</sup>.
- ◆ The 'Icelandic Scenario': UK boats caught 95% of the fish and shellfish landed from the UK EEZ in 2018 (non-UK boats caught 5%)<sup>4</sup>.

In both cases it was assumed that all of the fish and shellfish landed by UK fishing boats in 2018 from elsewhere in the EU27 EEZ was caught instead by EU27 fishing boats, but that all else remained the same. That is, the total quantity of fish and shellfish landed from the UK EEZ did not increase and that there were no increases in catches from other areas to compensate for catches lost under the scenario.

## Long-Term Trends

Various parameters, including the total weight of fish and shellfish landed by UK fishing boats, that weight as a percentage of the global total, and the UK's ranking in global fishing terms were determined annually over the period covered by the FAO data set (1950 to 2018) to provide information on long-term trends in the UK fishing industry.

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<sup>4</sup> It is believed that Norwegian and Icelandic fishing boats catch about 84% and 95% respectively of the fish and shellfish landed from their national EEZs. See Napier, Ian R. (2018) *The Potential Value to the UK Fishing Fleet of Larger Shares of the Landings from the UK EEZ*. NAFC Marine Centre. Available at: <https://www.nafc.uhi.ac.uk/research/statistics/eez-reports/eez-report-11/>

# Results

A total of some 84.4 million tonnes (live weight) of marine fish and shellfish were landed globally in 2018 (Table 1).

UK fishing boats landed just over 700,000 tonnes of marine fish and shellfish in 2018, less than 1% of the global total (Table 1), and the UK ranked 25<sup>th</sup> in the world for landings (Figure 1). Other European Union boats landed 4.6 million tonnes, more than 5% of the total, and the EU27 collectively ranked 6<sup>th</sup> in the world.

It had been estimated previously<sup>5</sup> that almost 1.4 million tonnes of fish and shellfish were landed from the UK EEZ by non-UK fishing boats in 2018, including just over 860,000 tonnes landed by EU27 boats, and that UK fishing boats landed just over 100,000 tonnes of fish and shellfish from elsewhere in the EU27 EEZ (Table 2). These figures suggest that 79% of the UK fishing fleet's and 19% of the EU27 fleet's global catch of fish and shellfish were taken within the UK EEZ

If UK fishing boats had caught 84% of the fish and shellfish landed from the UK EEZ in 2018 (the 'Norwegian Scenario') but none elsewhere in the EU27 EEZ, their total global catch would have been almost 1.7 million tonnes (Table 2). That would have been well over twice what they actually were and would have placed the UK 13<sup>th</sup> in the global rankings of fish landings (Figure 2).

If UK fishing boats had caught 95% of the fish and shellfish landed from the UK EEZ in 2018 (the 'Icelandic Scenario') but none elsewhere in the EU27 EEZ, their total global catch would have been almost 1.9 million tonnes (Table 2). That would have been more than two and half times more than they actually were and would have placed the UK 12<sup>th</sup> in the global rankings of fish landings.

Conversely, the EU27's global catch of fish and shellfish would have fallen to about 4 million tonnes under the Norwegian scenario (a decrease of 12%) or 3.9 million tonnes under the Icelandic scenario (a decrease of 15%) (Table 2) although neither scenario would have changed their global ranking (Figure 2).

Other non-UK boats' global landings would also have been reduced by the loss of the fish they caught in the UK EEZ (Table 2).

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<sup>5</sup> Napier (2020). See footnote 1 on page 2.

Table 1 The total weights of fish and shellfish landed globally by the top-10 nations and the UK in 2018 (live weights).

<b>Rank</b>	<b>Nation</b>	<b>Weight (‘000 t.)</b>	<b>%</b>
1	<b>China</b>	12,684	15.0%
2	<b>Peru</b>	7,150	8.5%
3	<b>Indonesia</b>	6,707	7.9%
4	<b>Russia</b>	4,840	5.7%
5	<b>USA</b>	4,722	5.6%
6	<b>EU27</b>	4,609	5.5%
7	<b>India</b>	3,620	4.3%
8	<b>Vietnam</b>	3,191	3.8%
9	<b>Japan</b>	3,104	3.7%
10	<b>Norway</b>	2,489	2.9%
25	<b>United Kingdom</b>	707	0.8%
	<b>TOTAL</b>	<b>84,412</b>	<b>100%</b>



Table 2 The total weights of fish and shellfish landed globally by UK, EU27 and other non-UK fishing boats in 2018, and the estimated weights landed by each from the UK EEZ and by UK boats from the UK27 EEZ<sup>6</sup>. The Norwegian and Icelandic scenario columns show the estimated global landings as they would have been if UK boats had caught 95% or 84% of the fish landed from the UK EEZ but none of that landed from the EU27 EEZ (see page 4 for a full description of these scenarios). (Live weights.)

2018		Weight ('000 tonnes)				
		Actual	Norwegian Scenario		Icelandic Scenario	
Area	Fleet	29%	84%	% diff.	95%	% diff.
Global	UK	707	1,683	+138%	1,897	+168%
	EU27	4,609	4,041	-12%	3,909	-15%
	Other non-UK	3,149	2,131	-13%	2,658	-16%
UK EEZ <sup>6</sup>	UK	555	1,634	+194%	1,848	+233%
	EU27	863	193		60	
	Other non-UK	527	118		37	
	All non-UK	1,390	311		97	
EU27 EEZ <sup>6</sup>	UK	102	0		0	

<sup>6</sup> Data for landings from the UK and EU27 EEZs are from Napier (2020). See footnote 1 on page 2.

## Global Fish Landings in 2018

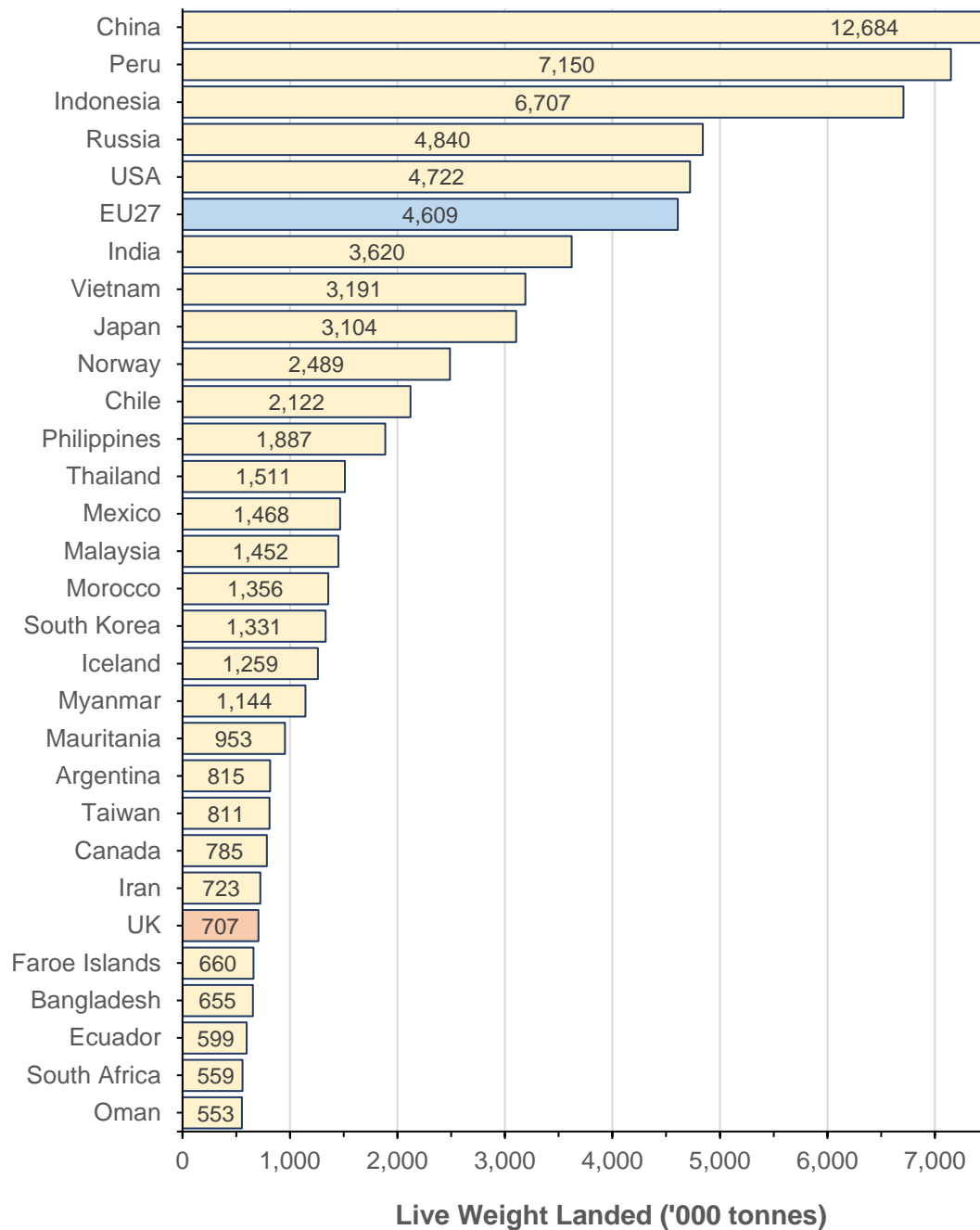


Figure 1 Global landings of marine fish and shellfish in 2018 by the top-30 fishing nations with the total weight landed by each. ('000 tonnes live weights).

## Global Fish Landings in 2018 (Norwegian Scenario)

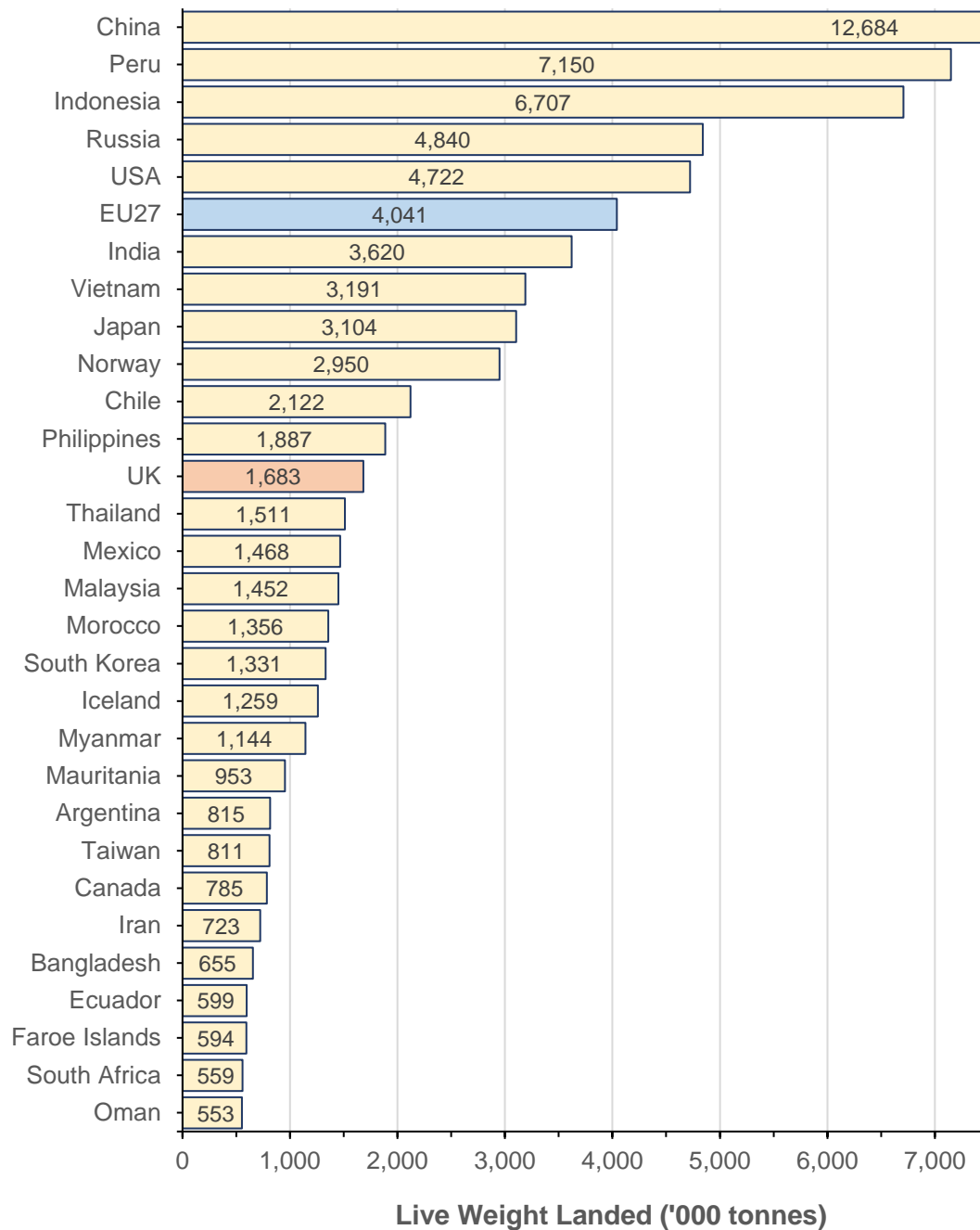


Figure 2 Global landings of marine fish and shellfish in 2018 by the top-30 fishing nations with the total weight landed by each as they would have been under the 'Norwegian scenario' (UK fishing boats caught 84% of the fish and shellfish landed from the UK EEZ – see page 4 for full description). ('000 tonnes live weight.)

Under the 'Icelandic scenario' (95%) the UK would have ranked one place higher.

## Long-Term Trends

The weight of marine fish and shellfish landed by UK fishing boats has generally declined over the last seven decades (Figure 3). From a peak of about 1.2 million tonnes in 1952, global landings by UK boats fell to a low of about 600,000 tonnes in 2008, a decline of 50%. Despite a small recovery since then, landings in 2018 (700,000 tonnes) remained well below what they were in the 1950s.

(Landings by UK fishing boats in the 1950s, 1960s and 1970s included significant quantities of fish caught in 'distant waters' in what are now the Exclusive Economic Zones of Faroe, Iceland, Norway and Russia.)

The long-term trend in landings by (current) EU Member States' fishing boats is very different to that of the UK: Their total landings increased rapidly after 1950, more than doubling by the mid-1970s (Figure 4). Landings by EU boats remained at this high level until the late 1980s but declined rapidly thereafter. Despite this decline, landings by EU boats remain well above what they were in the early 1950s (landings in 2018 were almost 50% greater than those in 1950).

During the 1950s the UK generally ranked about 6<sup>th</sup> in the world for landings of marine fish and shellfish (Figure 5) but that ranking declined steadily over the following decades, to about 25<sup>th</sup> by the 2000s. This decline in ranking reflects both the decline in landings by UK fishing boats and the expansion by other nations of their fishing industries (and catches).

Similarly, the UK's share of the global marine catch of fish and shellfish declined steeply from about 6% in the early 1950s to below 2% by the 1970s and to below 1% by the 2000s (Figure 6).

## UK Fishing Boats

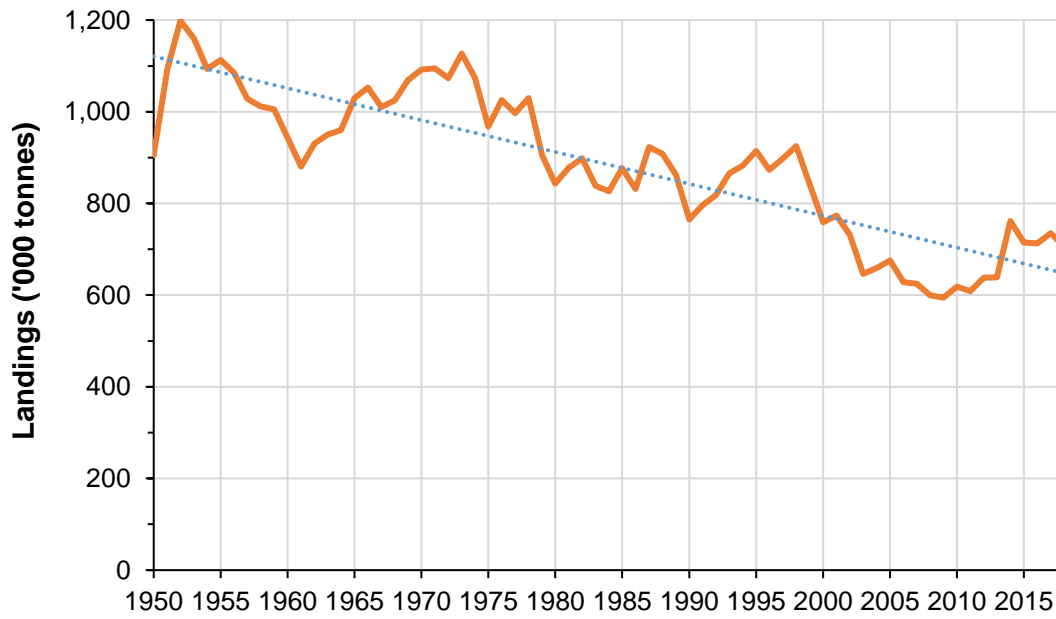


Figure 3 The weight of fish and shellfish landed annually from 1950 to 2018 by UK fishing boats. A straight trendline is fitted through the data. (Live weights.)

## EU Fishing Boats

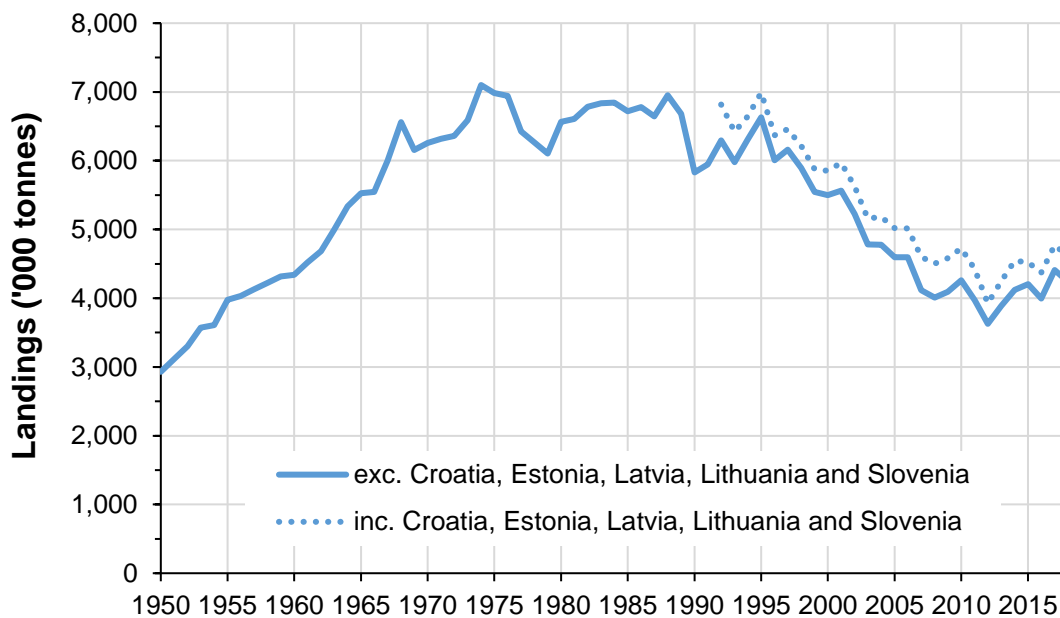


Figure 4 The total weight of fish and shellfish landed annually from 1950 to 2018 by (current) EU member state fishing boats. (Live weights. Data for Croatia, Estonia, Latvia, Lithuania and Slovenia are only available after they became independent states.)

## UK Fishing Boats (Global Rank)

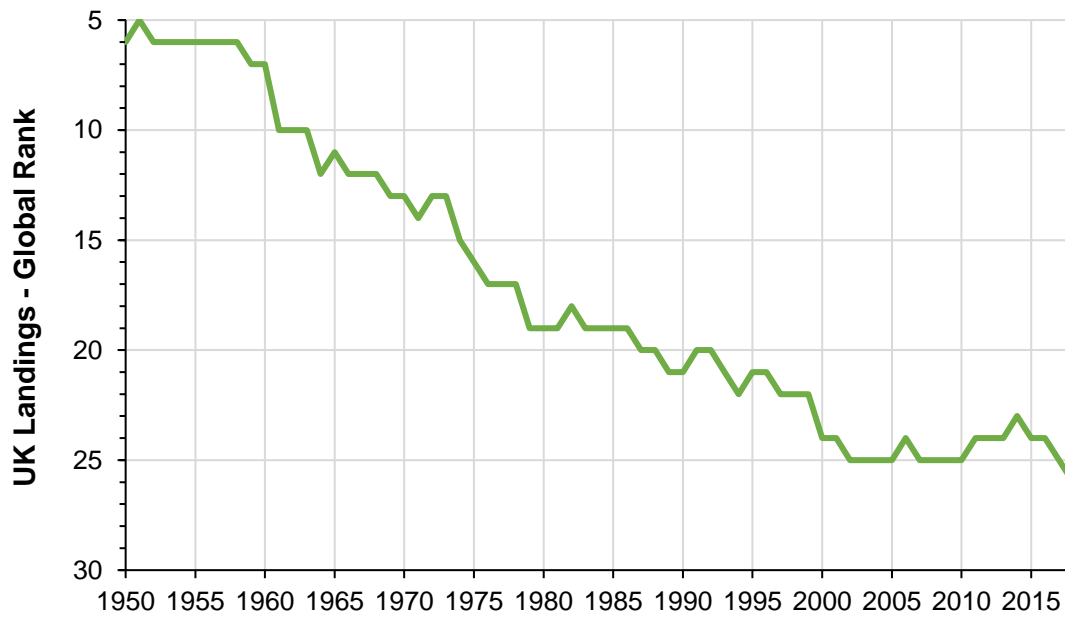


Figure 5 The annual global ranking from 1950 to 2018 of landings of fish and shellfish by UK fishing boats.

## UK Fishing Boats (% of Global Total)

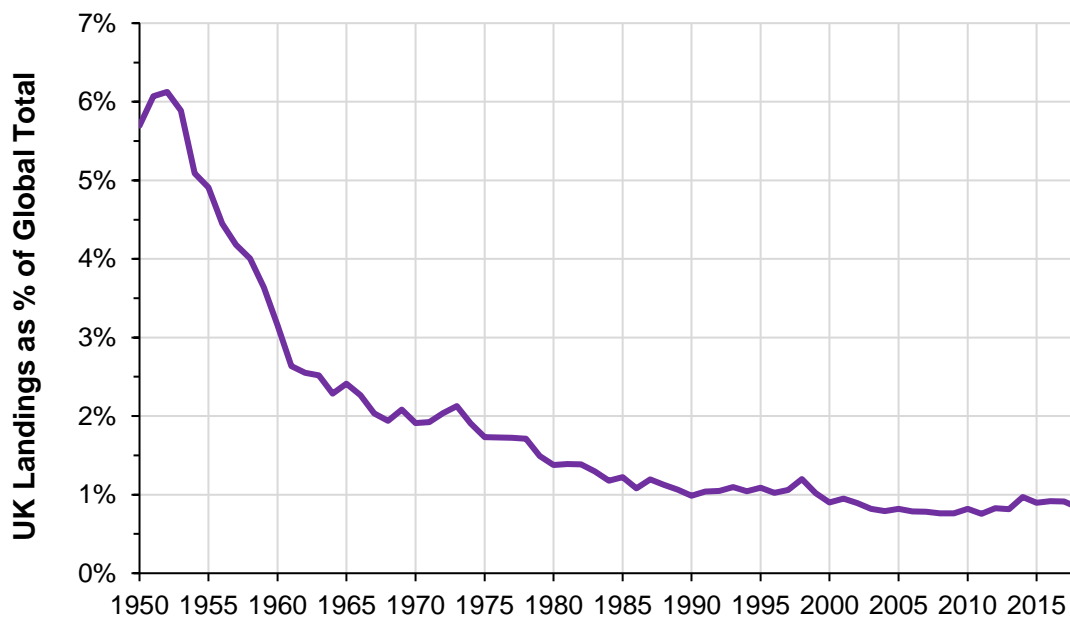


Figure 6 Annual landings of fish and shellfish by UK fishing boats from 1950 to 2018 as a percentage of the global total.

# Discussion

The quantity of marine fish and shellfish landed by UK fishing boats declined substantially over the last seven decades, as did its global ranking for fish catches and its share of global landings.

Part of this decline may be attributed to the loss of access in the 1970s to traditionally important 'distant water' fishing grounds in what are now the exclusive economic zones (EEZs) of countries like Faroe, Iceland, Norway and Russia. However, the decline in UK fish landings had arguably begun before the establishment of EEZs. It is striking that landings by UK fishing boats were generally declining, or at best stagnant, during the 1950s and 1960s while those of (current) EU member states were expanding rapidly.

A consequence of this difference is that although landings by UK and EU fishing boats both declined after the late 1980s, the earlier expansion meant that the EU fleet started from a higher level and thus ended up ahead of where it had been in the 1950s. The decline in landings by the UK fleet after the late 1980s, by contrast, was simply a continuation of a long-term decline which had started in the 1950s and meant that UK landings ended well below what they had been in the 1950s.

It is likely that an important factor in the relative fortunes of the UK and EU fishing fleets was the UK's entry to the (then) European Economic Community in 1973 which, under the principal of 'equal access', gave other EU states' fishing boats the right to fish in what became the UK's exclusive economic zone. Thus, while other EU fishing boats also lost access to 'distant waters' they gained access to UK waters. At the same time UK fishing boats were unable to take full advantage of the fish resources in the UK EEZ due to the conflicting 'rights' of other EU fishing fleets. This is highlighted by the fact that only 29% of the fish and shellfish landed from the UK EEZ in 2018 was caught by UK fishing boats<sup>7</sup>.

The results of this analysis suggest that if UK fishing boats had been able to catch a significant proportion of the fish and shellfish landed from the UK EEZ their landings would have been substantially greater than they actually were, even without access to other areas of the EU EEZ – potential global landings of up to almost 1.9 million tonnes in 2018 under the 'Icelandic scenario' (compared to actual landings of 700,000 tonnes). That could have moved the UK up to 12<sup>th</sup> place in the global ranking of fish landings, well ahead of Iceland and only just behind Norway.

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<sup>7</sup> Napier (2020). See footnote 1 on page 2.

Figure 7 shows what the UK fleet's landings could have been under if they had been able to catch all of the fish landed from the UK EEZ 2015 to 2018 compared to what they actually were.

These results suggest that if the trajectory of the UK fishing industry over the last four decades would have been very different if the UK fleet had had exclusive (or even preferential) access to the fish and shellfish resources of the UK EEZ, something enjoyed by the fishing industries of countries like Faroe, Iceland and Norway. The implications of this for the economies of many coastal and fisheries-dependent communities are obvious.

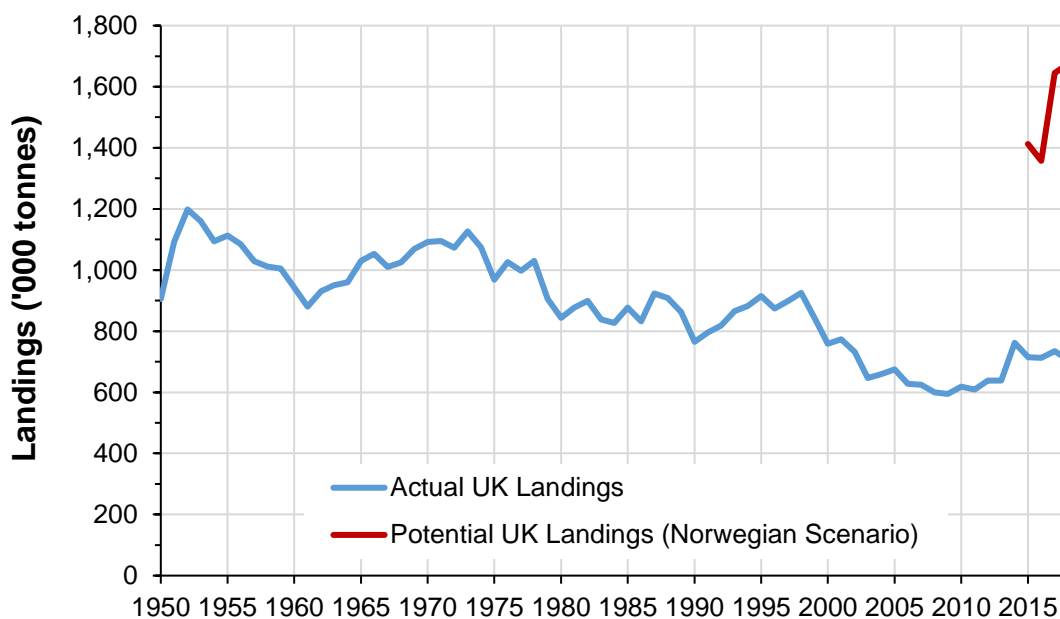


Figure 7 The weight of fish and shellfish landed annually from 1950 to 2018 by UK fishing boats and the predictions of what UK landings could have been from 2015 to 2018 under the 'Norwegian scenario' (UK boats catch 84% of the fish and shellfish landed from UK EEZ – see page 4 for full description). (Live weights.)