

Without a Brexit fisheries deal, herring and other North Sea species face dire future

March 19 2020, by Michael Heath and Robin Cook



Net losses. Credit: Alan Smillie

Taking back control of fisheries [became one of](#) the totemic issues

uniting supporters of the campaign for the UK to leave the EU. The issue will again be high on the agenda when the negotiations over the future relationship between the UK and EU are able to take place.

This will turn on the principles of freedom of access to [territorial waters](#), and the rules governing how the EU's total allowable catch is divided between member states. Both are enshrined in the [EU Common Fisheries Policy](#), and the fishing quotas have been fixed since 1983. Referred to as "relative stability," these permit a disproportionate amount of fishing in UK waters. Vessels from other EU member states are estimated to catch eight times as much fish from UK waters as the other way around.

The UK government has [indicated that](#) getting a better deal for British fishers will be a red line in the negotiations. In particular, it proposes that access to UK waters should be licensed and [quota](#) shares should be negotiated annually based on "zonal attachments," which are the proportions of international fish stocks that reside the 200-mile area off the coast of a country, known as the [exclusive economic zone](#).

The trouble is that continued access to the UK's waters and maintaining existing quota shares are [red lines for the EU](#). It seems likely that Brussels will seek to make a tariff-free trade agreement conditional on these arrangements. In addition, the negotiations will eventually have to involve Norway, which also has a legitimate claim on North Sea stocks and relies heavily on access to UK waters for catches of some species.

With such different positions, there is a reasonable prospect that the two sides will not be able to reach agreement on a framework for reallocating the quotas—at least not to the satisfaction of the UK fishing industry. This is supposed to be achieved by July 2020, the timescale set out in the [UK withdrawal agreement](#), though that date is [likely to](#) slide due to the coronavirus outbreak.



Pelagic trawler moored at Lerwick in the Shetland Islands. Credit: Michael Heath, Author provided

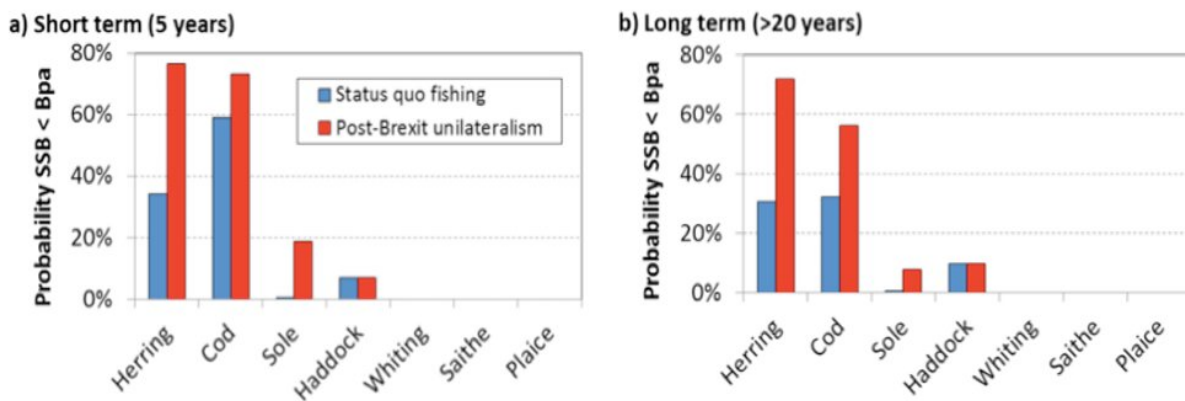
Our modeling

The worst-case scenario would be that the parties unilaterally set their own quotas for what they consider to be their fair share of each fish stock, and that in total these exceed the sustainable catch limit recommended by scientists. The University of Strathclyde conducted a modeling study to assess the ecological consequences of such an eventuality, using the North Sea as a case study.

[Our report](#) – a longer, more technical version is [available here](#) – predicts the quotas that the negotiating parties might set for North Sea fisheries in the event of negotiations breaking down. These are based on recent landings data and estimates of zonal attachments for key fish stocks.

We calculated that the UK could seek to quadruple its North Sea herring catch and triple the amounts it catches for some other species such as saithe and sole. On the other hand, the UK already holds a fair share of the quota for species such as haddock, and the majority of the quota for shellfish, so those species will probably be less contentious.

If the EU refuses to give up any of its quota and attempts to catch it outside UK waters, this would translate into a 60% overall increase in [trawling for pelagic fish](#) such as herring, mackerel and sprats. This would push the international herring catch to 70% more than the level recommended by the [International Council for the Exploration of the Sea](#) (ICES). As for demersal fish such as cod, haddock and whiting, we foresee 10% rises in both trawling activity and the total international catch.



SSB = spawning stock biomass. Credit: University of Strathclyde

We used two different mathematical models to simulate how this shift would affect the North Sea ecosystem and fish stocks. The first model projected what would happen to seven key fishery species: herring, cod,

haddock, whiting, saithe, plaice and sole. It determined the probability of spawning stocks falling below the [precautionary level](#) (Bpa) where fishing starts to threaten the future of a species. This is the point at which ICES recommends reducing fishing to conserve the stock.

Our second model predicted what would happen as a whole to the [food web](#), which is the network of who eats what in the sea. This model represented the range of plants and animals in the sea, from bacteria to whales.

Both models predicted that if the UK and EU act unilaterally to set their own quotas, the greatest risk is to stocks of plankton-eating pelagic fish, especially herring. The risks to demersal fish as a whole are smaller, though there is still a significant risk to cod stocks. To look at the short and long-term prospects of hitting the Bpa, the charts below compare the effect of unilateral quotas with a new UK-EU agreement that maintains the status quo (click on the charts to make them bigger).

If no agreement is reached, our second model also predicted declines in seabirds and cetaceans—whales, dolphins and porpoises. This was due to the combined consequence of reducing their main food supply, which is mainly pelagic fish, and more of them dying from getting caught in fishing nets.

The findings assume that the UK does not prioritize catching sandeels after excluding foreign vessels from its waters. Norway and Denmark currently catch over [150,000 tonnes of sandeels](#) per year in the UK North Sea for processing into [fish](#) meal. The UK has a much smaller quota allocation for this species but typically trades it for other species and catches only 2,000 tonnes.

It seems unlikely that the UK could develop the means to catch and process sandeels in the short term, even if markets were available and

this was supported by policy. Sandeel fishing is also banned off the east coast of Scotland and north-east England to protect the food supply for [seabird colonies](#). Clearly, if a UK sandeel fishery was factored into the models, in addition to the existing quota caught by Norway and Denmark, the consequences for the ecosystem would be exacerbated.

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