Seafish Information Note

North Sea cod

December 2019

Introduction

This Seafish Information Note provides an overview of the stock status and management advice for the North Sea cod fishery. It has been prepared for a non-technical audience and is primarily directed at seafood processors and retailers. The information note provides:

1. An overview of the latest 2019 International Council for the Exploration of the Sea (ICES) advice for North Sea cod.
2. An explanation of the significance of this advice for future management of the fishery.
3. Implications of this advice for North Sea cod's Marine Stewardship Council (MSC) certification.
4. An assessment of the possible implications for the UK seafood supply chain.

This document aims to improve supply chain understanding of the state of the fishery and the processes underway to address stock issues so that processors, retailers and consumers can continue to source North Sea cod with confidence.

Overview of the latest ICES advice for North Sea cod

Cod in the North Sea, Skagerrak and Eastern English Channel (ICES Subarea 4, Division 7.d, and Subdivision 20) is assessed and managed as a single stock. The status of this and other stocks are assessed annually by ICES using four key information sources:

1. Landed catch samples from across the fishing fleet.
2. On-board discard sampling from the main fishing fleet (covering 76% of landings in 2018).
3. Annual fishery independent vessel surveys.
4. Information on the ecological interactions with other species.

From an all-time high in the late 1960s, the North Sea cod stock declined to its lowest level in 2006 to a biomass of 40,000 tonnes. Following a range of management measures (including significant reductions to the total allowable catch (TAC)) the biomass recovered to 118,000 tonnes in 2015. However, the 2019 assessment results indicate that the stock has once again declined, with a biomass estimate of 81,224 tonnes[1].

The exact reason for this decline is unknown but possible factors include a decline in the survival rate of older fish and fewer young fish joining the fishery; collectively these factors can impact on future breeding rates and stock size. ICES also highlights uncertainty in the assessment, with recent years' (since 2017) assessment results indicating a lower biomass and a higher level of fishing pressure than previously. This is connected with lower catch rates of older fish in the Research Vessel surveys compared with the commercial catch. The reasons for this are not fully understood.

There is also a focus on the environmental impact that climate change may be having on the cod stock; evidence suggests that increasing sea temperatures have impacted the health and distribution of fish stocks in the North Atlantic. As sea temperatures increase cold water species, such as cod, migrate further north to seek cooler waters.[2] If the biological range of a stock alters there can be implications for the stock assessment process as cod may no longer be found in areas covered by the independent trawl surveys. This can mean that the surveys are inadvertently underestimating the size of the cod biomass.

ICES advice is used to inform annual catch limits. These limits are set so as to ensure that the cod stock is at, or is moving towards, its Maximum Sustainable Yield (MSY) target. In addition to the management target, biological reference points have also been set for the North Sea cod stock (such as Blim, the stock size below which the addition of young fish to the population is highly likely to be impaired). These reference points are used by managers to determine when action should be taken to safeguard or recover a stock.

[1] ICES Advice on fishing opportunities, catch, and effort. Cod in the North Sea, Skagerrak and Eastern English Channel (ICES Subarea 4, Division 7.d, and Subdivision 20). 8th November 2019

[2] Engelhard et al., Climate change and fishing: a century of shifting distribution of North Sea cod. Global Change Biology (2014) 20, 2473-2483

Overview of the latest ICES advice for North Sea cod (continued)

The latest stock assessment for North Sea cod places the stock below the Blim reference point of 107,000 tonnes and therefore outside safe biological limits. At this level the advice is clear that fishing pressure must be reduced to allow the stock to rebuild to the MSY management target of 150,000 tonnes. ICES advice recommended that the fishery should be rebuilt to within safe biological limits within one year and proposed a 61% reduction to the TAC.

Any decision to rebuild a stock should, in addition to a stock's biology, also take account of the social and economic factors related to the fishery. A reduction to the cod TAC will directly impact businesses across the seafood supply chain and the severity of that impact will depend on the magnitude of the reduction. There are indirect implications too; for example, reducing the cod TAC will increase the likelihood that it becomes a 'choke' species which will constrain harvest levels of other quota species such as haddock, plaice, and hake.

Taking socio-economic factors into account means that the 'rate' of rebuild becomes a critical factor. Permitting a longer rebuild period (within agreed parameters) is a credible option provided the agreed TAC still allows the fishery to rebuild. A smaller TAC reduction will still deliver the desired outcome of restoring the stock but the trade-off is that, in return for a less severe impact on businesses and the communities that rely on the cod fishery, it will take slightly longer to reach the management target. The rate of rebuild could be reduced further if the TAC reduction is supported by additional management measures, such as spatial closures to protect juvenile or breeding cod.

ICES recognises this approach and as part of its annual advice provided managers with alternate annual catch scenarios. For example, ICES predict that a 20% reduction in the TAC for 2020 would lead to a 10.3% increase in spawning stock biomass of cod in the North Sea by 2021.

How will the fishery be managed given the latest ICES advice?

North Sea cod is managed jointly by the EU (under the Common Fisheries Policy) and Norway. Each year a TAC is agreed under the EU-Norway Agreement.

The ICES advice recommended that the TAC is reduced from 35,358 tonnes in 2019, to 13,686 tonnes in 2020 - a reduction of 61%. This is the maximum level of catch predicted to rebuild the stock to within safe biological limits within one year. However, given the socio-economic factors discussed above, the rate of rebuild was a key factor during recent EU-Norway negotiations. As such it was agreed that the actual TAC for 2020 would be reduced by 50% to 17,669 tonnes, which is a significant reduction.

EU and Norway have also agreed to implement a range of additional management measures to help the stock recover. These include:

- Seasonal closures to protect spawning aggregations of cod; and
- Establishing a working group of experts to explore other potential measures including additional closures and fishing gear related technical measures to minimise cod catches.

EU member states will also introduce additional monitoring control and surveillance measures in 2020 to minimise the risks of discarding and high grading by vessels operating in areas of high cod abundance. Finally, the UK is committed to progressing work to improve our understanding of North Sea cod stock structure. This research should be completed in time to inform management decisions at the end of 2020.

What does this mean for MSC certification?

Marine Stewardship Council (MSC) certified fisheries are independently assessed against the standard's three principles of sustainable fish stocks, minimising environmental impact, and effective fisheries management.

The North Sea cod fishery was first certified in 2017. Certification typically lasts for a five year period during which time there is a scheduled annual audit. However, if new information becomes available that could affect how the fishery performs against one or more of the three principles, the certifying body instigates an 'expedited audit' to reassess the fishery in light of the changing circumstances.

Following the most recent ICES advice, which indicated that the stock had fallen below the Blim reference point, the North Sea cod stock underwent an expedited audit. The stock failed to meet minimum requirements under performance indicators for stock status and stock rebuilding which led to the suspension of MSC certification. A number of conditions have been placed on the fishery which must be addressed before the fishery can secure certification; this includes rebuilding the stock above Blim within four years.

The Scottish Fisheries Sustainable Accreditation Group (SFSAG), as the MSC client, has also committed to a five-year Fisheries Improvement Project (FIP) to support the rebuilding of the North Sea cod stock. The proposed FIP includes provisions for real-time closures for the protection of both mature and juvenile cod, access limitations to areas of high cod abundance, and area closures to protect spawning cod. These measures should enhance the TAC reduction and enable the fishery to rebuild at a faster rate.

The current cod stock status also has implications for other MSC certified North Sea fisheries where cod is a bycatch species. The SFSAG Northern Demersal Stocks MSC certification – which includes North Sea haddock, hake, plaice and saithe – is currently undergoing a surveillance audit which will take into account the 2019 data on North Sea cod. The full report from this surveillance audit is expected to be published in January 2020.

It is possible that the audit will lead to conditions also being imposed on the Northern Demersal Stocks MSC certification, which mean that the industry will need to provide evidence that management measures are in place to ensure fishing activity does not hinder recovery of the cod stock. SFSAG is already taking measures to address this.

What does this mean for UK processors and retailers?

The latest ICES assessment results and the decision to suspend the MSC certification clearly creates challenges for UK seafood producers who catch, process and sell North Sea cod. While there are clearly issues with the fishery the agreed reduction to the TAC and the additional fisheries management interventions via the FIP are evidence that the fishery is being managed sustainably. It is still possible to responsibly source North Sea cod there will just be less of it available over the coming years.

It is also important to highlight that most of the cod sold in the UK is actually sourced from outside UK waters; in 2017, the UK landed 21,600 tonnes of cod and imported 120,000 tonnes at a value of £493m.[3] Most of the cod consumed in the UK is caught in the Arctic waters of the Barents Sea and Iceland where stocks are healthy and where the recent science advice has proposed an increase in the amount of cod that can be caught. Many of the fisheries from which the UK sources cod, including the Barents & Norwegian Seas cod and Iceland cod, are MSC certified and exploited sustainably. The MSC hosts a list of all MCS certified fisheries.

Conclusion

Although the recent decline in North Sea cod biomass is a cause for concern, the 2019 estimate is more than double the lowest reported biomass figure observed in 2006. The recovery of the cod stock from that previous low point was due to a package of fisheries management measures to reduce mortality and to protect juvenile fish. These past actions demonstrate that the fishery can rebuild to sustainable levels and that the commercial fishing industry is prepared to take the necessary actions.

We don't fully understand what has caused this most recent decline. It is not uncommon for a fishery to be sustainably managed, but for the stock's biomass to fluctuate due to fishing pressure and other environmental factors. These factors can include changing water temperature or limited food availability which can mean that breeding is not as successful as it has been in the past. Such factors need to be taken into account in the management of the stocks.

However, what we do know is that a responsibly managed fishery is one that responds to these issues. The proposed reduction in catch and the steps taken by the industry to implement a FIP for the North Sea cod fishery are evidence of responsive fisheries management in action and underpins sustainability of seafood for today's and future generations.

[3] UK Sea Fisheries Statistics (2017) Marine Management Organisation

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About Seafish

Seafish is a non-departmental public body (NDPB), supporting the £10bn UK seafood industry from catch to plate. Our vision is for a seafood industry that is truly thriving and we use our unique position, right at the heart of industry, to work in partnership with businesses, Government and other stakeholders to make progress together.

We are funded by a levy on the first sale of seafood in the UK which we use to deliver research, campaigns and events, business and industry support tools, information networks and training for the seafood industry.

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