

THE FINANCIAL IMPACT OF THE 2020 BALTIC SEA TAC PROPOSALS

AN ASSESSMENT OF IFRO COMMISSIONED
WORK NO. 2019/17

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Background: A commitment to end overfishing by 2020 at the latest

In 2013, after decades of overfishing and mismanagement, a new reform of the Common Fisheries Policy was widely celebrated for its ambition to deliver healthy oceans and a sustainable fishing industry. Central to this reform was the commitment to end overfishing “by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks”. With 2020 just around the corner, we have reached the deadline set in the reformed Common Fisheries Policy (CFP) to end overfishing, although six out of ten stocks are still being overfished in the northeast Atlantic (STECF, 2019).

On 14 October 2019, the EU Council of Ministers (Agrifish configuration) will meet to set the total allowable catches (TACs) for the Baltic Sea. The scientific advice on TACs is for several large reductions to meet the CFP commitment to end overfishing and the European Commission has issued low TAC proposals as a result. As in previous years, low TACs have prompted socio-economic concerns about the short-term financial consequences for parts of the EU fishing fleet.

In this context, the Danish Government commissioned the Department of Food and Resource Economics (IFRO) at the University of Copenhagen to analyse the financial consequences of the Baltic Sea TAC proposals for western Baltic cod (subdivisions 22-24), eastern Baltic cod (subdivisions 25-32), and western Baltic herring (22-24).

The IFRO study (Andersen & Andersen, 2019) takes a static-comparative approach, comparing the 2018 TACs and financial performance of the Danish Baltic fleet with performance of the fleet under the same conditions as 2018 but using the proposed 2020 TACs from the European Commission. This briefing summarises the study and highlights several important caveats to consider in the process of setting TACs. The relevance of assessing socio-economic impacts of the TACs given the mandatory 2020 deadline is not considered here.

Study findings: Financial reductions in 2020

The IFRO study limits its scope to the activity of fishing fleets catching cod and herring in the Baltic Sea (322 out of 2,157 vessels). Whereas these vessels caught DKK 285,845,000 worth of landings in 2018, the authors estimate a landed value of DKK 241,219,000 (-16%) based on reductions in cod and herring and DKK 227,605,000 (-20%) based on cod, herring, and associated bycatches. Estimates of gross profit (using a definition that excludes labour costs) and net profit are only provided at the vessel level.

Calculating total profits (scaling up the results based on the number of vessels) indicates that the change in gross profit is -24% to -30% depending on the bycatch assumption and the change in net profit is -48% to -60%.

Only half an analysis: The benefits of rebuilding fish populations

The main issue with the study approach is that it is only half a cost-benefit analysis. With the study approach it is true by definition that lower TACs will have lower financial performance. The ‘best’ outcome would be setting a TAC hundreds or thousands times higher than the baseline. Such a conclusion is absurd because the benefits of lower TACs in 2020 (and thus the opportunity costs of higher TACs) are not included.

This is a significant omission as rebuilding fish populations is the entire rationale for setting TACs – the context in which the study takes place. Where populations are overfished – included the three populations studied here – reducing fishing pressure and allowing fish to reproduce can significantly increase catches in the future.

The gains from end overfishing – a state of maximum sustainable yield (MSY) – are many times greater than the losses in 2020 (see Annex), approximately 18 times, 3 times, and 8 times, for western Baltic cod (subdivisions 22-24), eastern Baltic cod (subdivisions 25-32) and western Baltic herring (subdivisions 22-24) respectively (see Table 1). It is thus far more important to consider the transition pathway to MSY rather than the change in 2020 of fishing very low TACs from very overfished populations.

Table 1: Increases at MSY compared to decrease under the 2020 proposal

TAC	Danish 2018 TAC	2020 proposal for Denmark*	MSY estimate for Denmark**	Change at MSY/change in 2020
Cod 22-24	2,444	1,337	22,539	18.2
Cod 25-32	6,522	0	25,551	2.9
Herring 22-24	2,426	372	18,310	7.7

*Applying relative stability to the Commission proposal

**Applying relative stability to MSY estimates from Froese et al., 2016.

The IFRO study considers the use of some alternative – higher – TAC proposals, but the changes are extremely modest as fish populations are so modest. No fleet segment changes from a position of profitability to unprofitability or vice versa. In a very practical sense, these populations are so overfished some fishing organisations are calling for efforts beyond TAC reductions as the small catch is hardly worth the effort:

“In short, nothing short of an effective ecosystems approach, a fundamental pillar of the CFP, will help the cod. Closing the fishery is a drop in the ocean. In any case, the fish simply aren’t out there for anyone to catch in economic quantities or quality (Low-Impact Fishers of Europe, 2019).”

The importance of transition pathways

From an economic perspective, the relevant question is to evaluate both the costs and benefits of a TAC proposal over multiple years. Different transition pathways can be compared according to their net present value (the value over multiple years when combined and expressed in current monetary terms). Studies of EU fisheries including the Baltic Sea (Guillen et al., 2016) and other parts of the world (Benson et al., 2016) find that the faster the transition, the higher the net present value as there are more years harvesting larger TACs from larger fish populations.

The IFRO study does not conclude which TAC level would be best for these three fish populations, but in the study conclusions the authors note the importance of transition pathways and the speed at which they reach higher TAC levels:

“For the fishing fleets, the onshore service and the processing industry, the short and long run consequences are dependent on how fast the stock situation improves. If it does not improve fast, a large number of vessels, primarily small vessels below 15 meters, are expected to leave the fishery fast, thus also having a derived effect on the onshore services and processing industry (Andersen & Andersen, 2019).”

Overestimating 2020 financial consequences

Added to this important caveat in how the study is structured, there are several channels through which the IFRO study likely overestimates 2020 financial costs: price elasticities, alternative fisheries, a 2018 baseline, and quota swapping.

In product markets scarcity is associated with a higher financial value. As fish landings decrease, under the same conditions it is expected that the price will increase (subject to the size of the change relative to the particular market). The IFRO study holds prices fixed, but for the TAC reductions incorporating price elasticities (albeit for a small quantity change) would increase 2020 landed value and thus temper the short-term financial consequences.

While the IFRO study considers species beyond herring and cod as a scenario where landings decrease even further than the TAC reductions due to bycatch, this is only one of two possible outcomes. One outcome – the one considered – is that other species function as complements (i.e. joint production), where their landings increase and decrease with landings of cod and herring. A second outcome – that is not considered – is that other species can serve as substitutes (i.e. alternative fisheries) where fishing effort can be displaced to pursue another source of income. This income from alternative

fisheries would increase 2020 landed value and thus temper the short-term financial consequences.

There is also an issue with the use of 2018 as a baseline for measuring financial consequences for 2020. While it is sensible to use 2018 as the latest year of financial data, it is important to note that the 2019 TACs were lower for both cod 25-32 and herring 22-24 and so the relative impact of the 2020 TAC proposal is smaller than the 16-20% change in landed value that is estimated in the study. The 2018 baseline also incorporates quota exchanges for Denmark (which increase all three TACs for Denmark) but there are no such quota exchanges estimated for 2020. This departs from the static-comparative approach employed in the study.

Taken together, these modelling issues imply that the negative financial consequences of the 2020 TAC proposal are overestimated in the IFRO study whereas the positive financial consequences of rebuilding fish populations are simply omitted.

Conclusions

The IFRO study adds to our understanding of the financial consequences of the 2020 Baltic Sea TAC proposal. Such an assessment comes with methodological challenges, some of which have been explained in this briefing. More importantly, in the context of TAC setting, a full assessment would also need to consider the benefits of lower TACs by modelling fish populations and MSY potential in order to calculate net present value. It is also important to note that with a legal commitment in the CFP to end overfishing by 2020 latest, the study cannot change the TACs that are agreed, but can inform other policy, for example mitigating measures in quota allocation, employment policy, subsidies, or other means (Carpenter, 2019). Without this caveat on full economic assessment and the context of the EU's legal commitment, the study's results could be misunderstood or misused.

ENDNOTES

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Low-Impact Fishers of Europe (2019). Looking for cod in the Baltic. Low-Impact Fishers of Europe. Retrieved from: <https://lifeplatform.eu/looking-for-cod-in-the-baltic/>

Scientific, Technical and Economic Committee for Fisheries (2019). Monitoring the performance of the Common Fisheries Policy (STECF-Adhoc-19-01). Luxembourg: Publications Office of the European Union. Retrieved from: <https://stecf.jrc.ec.europa.eu/reports/cfp-monitoring>

ANNEX

Figure 1a: Historical TACs, 2020 proposal, and MSY estimate for Danish cod 22-24

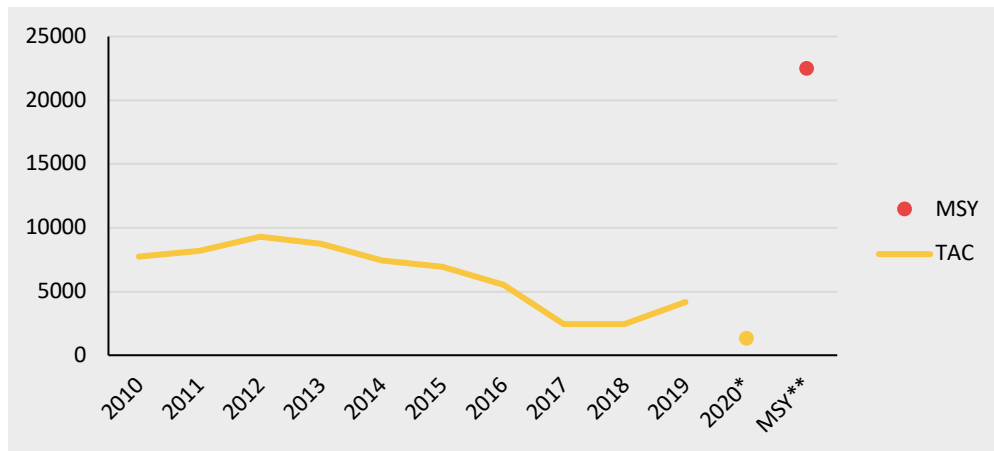


Figure 1b: Historical TACs, 2020 proposal, and MSY estimate for Danish cod 25-32

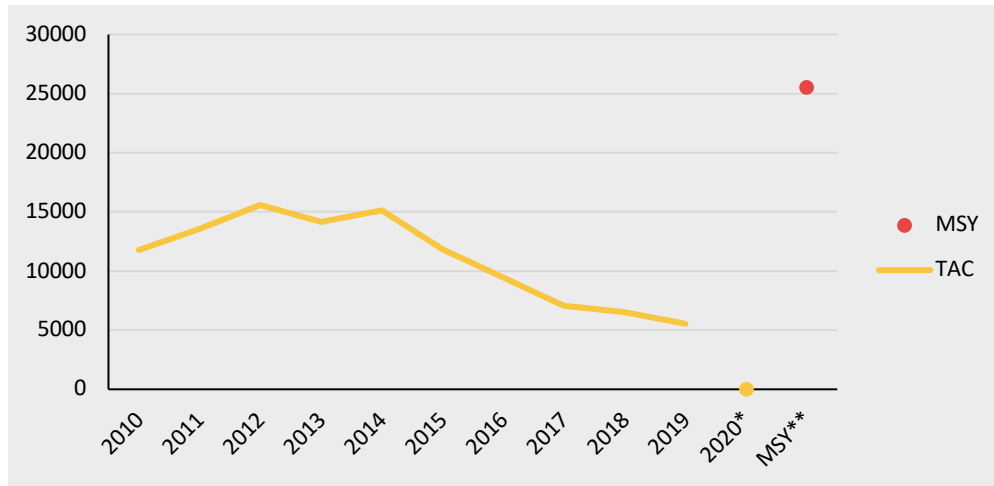
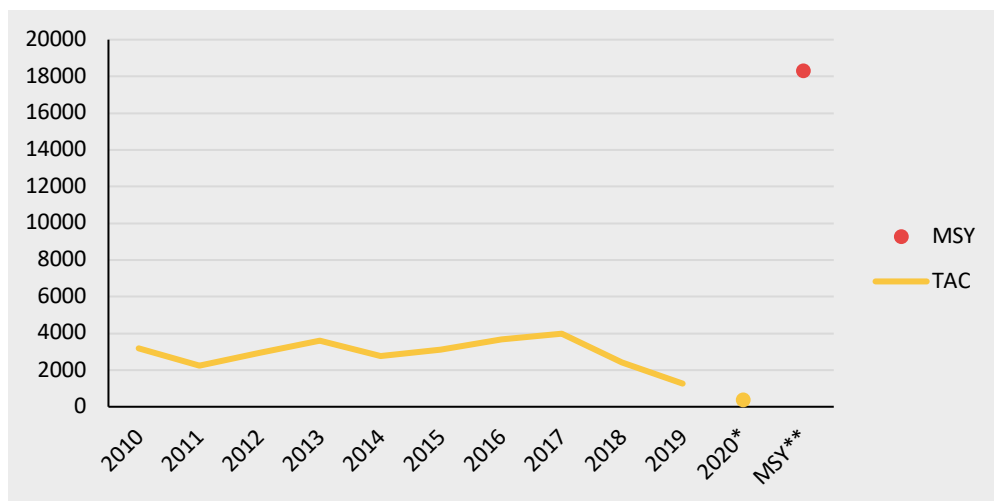


Figure 1c: Historical TACs, 2020 proposal, and MSY estimate for Danish herring 22-24



*Applying relative stability to the Commission proposal

**Applying relative stability to MSY estimates from Froese et al., 2016.