



Cod in the North Sea.

In October 2007, ICES updated the advice for cod (and some other species) in the North Sea. The update takes into consideration the most recent survey data (from IBTS Q3) and the results from the North Sea Fisher's Survey.

Compared to the assessment from spring 07, the inclusion of data from the IBTS Q3 survey resulted in a 10% increase in the recruitment estimate of the yearclass 2005 and a reduction in fishing mortality from 0,76 to 0,63 a reduction of 17%. The fishing mortality is now believed to be below F_{pa} . Although it is not particularly pointed out in the new advice, the updated assessment also estimate, that SSB in 2008 will be 62.300 tonnes and not 48.600 tonnes as assumed in June. This increase of 28% in the estimate is merely a consequence of adding data from an extra survey. It is not the consequence of a change in the fishery between May and October, but it documents quite well the sensitivity of the models and assumptions behind the assessment.

The results from the new assessment are in good agreement with the outcome of the questionnaire survey that has been performed by the fisher's organisations for the last 5 years.

Although the fishing industry is still convinced that the stock size is grossly underestimated, mainly due to systematic errors in the survey design and the underlying assumptions (*e.g.* that any change in abundance in a particular habitat is proportional to changes in all other habitats), it is appreciated that the assessment from ICES is the best available basis for a decision.

When scientists claim that there is a large unaccounted mortality however – fishermen have to call for some consideration. It is in no way documented – or even indicated – that such a thing really takes place. When confronted with the question, the chair of ACFM admits that what the scientists call unaccounted removals does not necessarily translate into unreported landings – it may also be a consequence of increased predation, or a migration out of the area – even, as mentioned above, a change in habitat preference. Or a combination of all these factors.

With the increased level of control – as well as the growing understanding amongst fishers that the resources of the sea are not limitless and the consequential increased level of compliance – there is no reason to believe that unreported landings in the order of 20.000 tonnes take place.

Nevertheless, the fishing industry is prepared to propose to set TACs for cod in the North Sea and Skagerrak for 2008 on the basis of the latest figures from ICES – unrealistically pessimistic as they may be – as well as the following principles:

1. An observed increase in abundance should benefit the fishers – as well as the stock.
2. The relatively good yearclass 2005 is a gift – not a cause for further reductions.
3. SSB must be further increased.
4. Fishing mortality should be further reduced.

5. Even if the level of unaccounted removals is questionable, it seems fair to assume that it will not increase significantly if the TAC is raised – and certainly not more than the proposed increase.

If these principles are applied to the forecast table in the latest advice from ICES:

Basis: $F(2007) = 14\%$ reduction on $F_{04-06} = 0.54$; R_{07-09} = re-sampled from 1997-2005 YC (median of ~140 million) ; $SSB(2008) = 62.3$; $Removals(2007) = 60.7$.

Rationale	Total Removals (2008) ¹	Basis	F total (2008)	SSB (2009)	%SSB change ²
Zero Catch	0.0	$F=0$	0.00	167.4	+169%
Status quo options	22.2	$F_{sq} * 0.2$	0.13	147.8	+137%
	42.1	$F_{sq} * 0.4$	0.25	130.2	+109%
	59.6	$F_{sq} * 0.6$	0.38	115.0	+84%
	75.2	$F_{sq} * 0.8$	0.50	101.4	+63%
	79.6	$F_s * 0.86 (= F_{2007})$	0.54	97.6	+57%

Weights in '000 t.

¹ Total removal estimates in 2004-6: 56% are accounted for by official landings, 13% by discards, and 31% are unaccounted removals. For 2006-only these figures are 61%, 18% and 21% respectively.

² SSB 2009 relative to SSB 2008

- the following rationale for setting TACs for cod in the North Sea and Skagerrak in 2008 emerges:

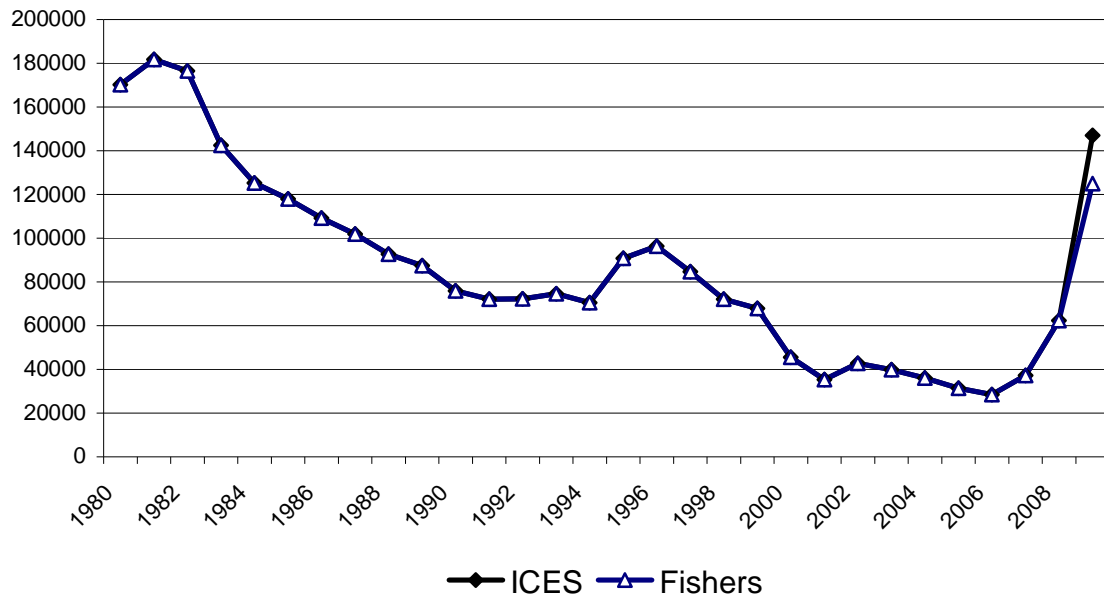
- Ad 1: As the stock is increasing, the TAC can be increased.
- Ad 2: The relatively good recruitment shall contribute to an increase in the spawning stock by more than the “standard 30%”.
- Ad 3: An increase in the spawning stock of 100% appears to be realistic.
- Ad 4: A decrease in fishing mortality to 0,3 – less than half the precautionary level and below the target mortality of the EU-Norway management plan – will equal a reduction in the observed F (0,63 in 2006) of more than 50%.
- Ad 5: A total removal in the order of 50.000 tonnes – which will be the consequence of following arguments 1 to 4 – will not lead to unprecedented proportions of unaccounted landings and discards – which can therefore be expected in the order of 40 to 45%.

The TACs for cod in the North Sea and Skagerrak for 2008 can therefore be increased with 15% - to 22.951tonnes and 3.279 tonnes respectively

The total TAC for the two areas will thus be 26.230 tonnes which is a good 1000 tonnes less than the TAC that emerges from following the calculation based on arguments 1 to 5.

The difference in the predicted development of the spawning stock between if ICES advice is followed – assuming total removals of 22.000 tonnes – and the consequence of setting TACs as

proposed in this brief is plotted in the figure below. According to temper the difference can be signified as being marginal or significant, but regardless of whatever it is called – the figure clearly shows that the cod stock is finally recovering – and that a 15% increase in TACs will not jeopardise the positive development.



Based on the positive development in the stock – a trend that is also reflected in the results from the fisher’s survey – it will be very difficult to explain to fishermen that further reductions are warranted. If a positive development is not reflected in a positive way to the fishers – what is then the value of the whole exercise?

A 15% increase in TAC equals an extra 3.500 tonnes being landed. A small quantity measured on the background of an expected growth in the spawning stock of more than 80.000 tonnes – isn’t it? And it may even give the fishermen the impression that all the reductions they have suffered have made a difference...

Copenhagen, 2. November 2007
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