



**Scientific, Technical and Economic
Committee for Fisheries (STECF)**

**REVIEW OF SCIENTIFIC ADVICE FOR 2012
Part 2 (STECF-11-09)**

CORRIGENDUM

*STECF advice on hake (*Merluccius merluccius*) in Division Vb (I), VI
and VII, VIII and XII, XIV (Northern hake)*

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SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF)

REVIEW OF SCIENTIFIC ADVICE FOR 2011 Part 2

CORRIGENDUM

The text below should replace the corresponding sections in the Part 2 of the STECF Review of advice for 2012 (STECF 2011. Review of scientific advice for 2012 – Part 2. Publications Office of the European Union, Luxembourg, EUR 24897 EN, JRC66020).

7.2 Hake (*Merluccius merluccius*) in Division Vb (1), VI and VII, VIII and XII, XIV (Northern hake)

The management area covers Skagerrak, Kattegat, IIa, IIIb.c.d, IV, VI, VII, VIII, XII and XIV with separate TAC's for these Divisions.

FISHERIES: Hake is caught in mixed fisheries together with megrim, anglerfish and *Nephrops*. Discards of juvenile hake can be substantial in some areas and fleets. An important increase in landings has occurred in the northern part of the distribution area (Division IIIa, and Subareas IV and VI) in recent years. Since the introduction of the high vertical opening trawls in the mid-1990s, no significant changes in fishing technology have been introduced. Landings have increased since 2006 and reached 73100 t in 2010, the highest figure since 1973.

SOURCE OF MANAGEMENT ADVICE: The main management advisory body is ICES. The advice is based on a length-based assessment using commercial catch data and survey data. This stock was benchmarked in 2010. This year's assessment presents major revisions in relation to last year: (i) new assessment model, (ii) incorporation of discards, (iii) faster growth rate. The time period has been extended back to 1978. This has improved the model's ability to determine the degree to which various levels of fishing reduced hake abundance during the mid-1980s and the 1990s and thus provides a clearer perspective of the historical development of the stock. Last year's assessment was indicative of trends. This year's assessment is consistent with last year's F and SSB trends.

REFERENCE POINTS:

	<i>Type</i>	<i>Value</i>	<i>Technical basis</i>
MSY Approach	MSY $B_{trigger}$	Not defined	
	F_{MSY}	0.24	$F_{30\%SPR}$
Precautionary Approach	B_{lim}	Not defined	
	B_{Da}	Not defined	
	F_{lim}	Not defined	
	F_{Da}	Not defined	

	Fish Mort (Length 15–80cm)	Yield/R	SSB/R
F_{max}	0.29	0.28	0.79
$F_{0.1}$	0.19	0.26	1.18
$F_{35\%SPR}$	0.20	0.26	1.12
$F_{30\%SPR}$	0.24	0.27	0.96

MANAGEMENT AGREEMENT: A recovery plan was agreed by EU in 2004 (EC Reg. No. 811/2004). The aim of the plan was to increase the SSB to above 140 000 t with a fishing mortality (F_{mgt}) of 0.25, constrained by a year-to-year change in TAC of 15% when SSB is above 100 000 t. ICES have not evaluated the plan. At present (2011) the SSB is estimated to be above 140000 t, but the reference points used as basis for that

recovery plan are not considered valid anymore. The application of a new assessment method has, however, resulted in a change in the perception of the historical stock and the previous defined precautionary reference points, on which the recovery plan is based, are no longer appropriate.

A proposal for a long-term plan has been put forward by the EU in 2009 (COM(2009) 122 final). The aim of the proposal is to reach maximum sustainable yield.

STOCK STATUS:

F (Fishing Mortality)			
	2008	2009	2010
MSY (F_{MSY})	✘	✘	✘ Above target
Precautionary approach (F_{pa}, F_{lim})	?	?	? Undefined
SSB (Spawning-Stock Biomass)			
	2009	2010	2011
MSY ($B_{trigger}$)	?	?	? Undefined
Precautionary approach (B_{pa}, B_{lim})	?	?	? Undefined
Qualitative evaluation	↗	↗	✓ Above poss. reference points

The spawning biomass has been increasing since 1998 and is estimated to be record high in 2011. Fishing mortality has been decreasing in recent years, but is still above FMSY. Recruitment fluctuations appear to be without substantial trend over the whole series. After several high recruitments in 2006 to 2008, the last two recruitments are estimated to be low.

RECENT MANAGEMENT ADVICE:

ICES advises on the basis of the transition to the MSY approach that landings in 2012 should be no more than 51 900 t.

MSY approach

The stock is considered to be above any potential MSY $B_{trigger}$. Following the ICES MSY framework implies fishing mortality to be reduced to 0.24, resulting in landings of 39 400 tonnes in 2012. This is expected to lead to an SSB of 138 000 tonnes in 2013.

Following the transition scheme towards the ICES MSY framework implies fishing mortality be reduced to 0.33 and corresponding to landing of 51 900 tonnes. This is expected to lead to an SSB of 125 000 tonnes in 2013.

Additional considerations

Discards of juvenile hake can be substantial in some areas and fleets. The spawning biomass and the long-term yield can be substantially improved by reducing mortality of small fish. This could be achieved by measures that reduce unwanted bycatch through shifting the selection pattern towards larger fish.

FISHING OPPORTUNITIES FOR 2012 according to COM(2011) 298-Final.

STECF notes that with reference to COM(2011) 298-final, and in the absence of an agreed management plan, this stock is classified under category 2. The rules for category 2 prescribe that for 2012, a TAC for Northern Hake of 51,900 tonnes should be proposed.

STECF also notes that the proposed management plan (COM(2009) 122 final), which has not yet been adopted, prescribes that for 2012, a TAC for Northern hake of 46.839 t should be proposed, based on a 15% reduction in the TAC for 2012.

STECF COMMENTS: STECF agrees with the ICES assessment of the state of the stock and agrees with the ICES advice for 2012. STECF also agrees with ICES that effective measures to reduce discarding are also needed, given the substantial discards of juvenile hake in some areas and fleets.

STECF notes the ICES comment that due to the new perspective of historical stock trends, resulting from the new assessment, the previously defined precautionary reference points are no longer appropriate. In particular, the absolute levels of spawning biomass, fishing mortality, and recruitment have shifted to different scales. As a consequence, the TAC corresponding to the current recovery plan (EC Reg. No. 811/2004) should not be considered, because the plan uses target values based on precautionary reference points that are no longer appropriate.

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Abstract

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