

ECOREGION Widely distributed and migratory stocks
STOCK Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d (Northern stock)

Advice for 2015

ICES advises on the basis of the MSY approach that landings should be no more than 78 457 tonnes in 2015. Even though some discards are included in the assessment, the total amount of discards cannot be quantified. Therefore, total catches cannot be calculated.

Stock status

Fishing pressure			
	2011	2012	2013
MSY (F_{MSY})	✗	✗	✗ Above target
Precautionary approach (F_{pa}, F_{lim})	?	?	? Undefined
Stock size			
	2012	2013	2014
MSY ($B_{trigger}$)	✓	✓	✓ Above trigger
Precautionary approach (B_{pa}, B_{lim})	✓	✓	✓ Full reproductive capacity

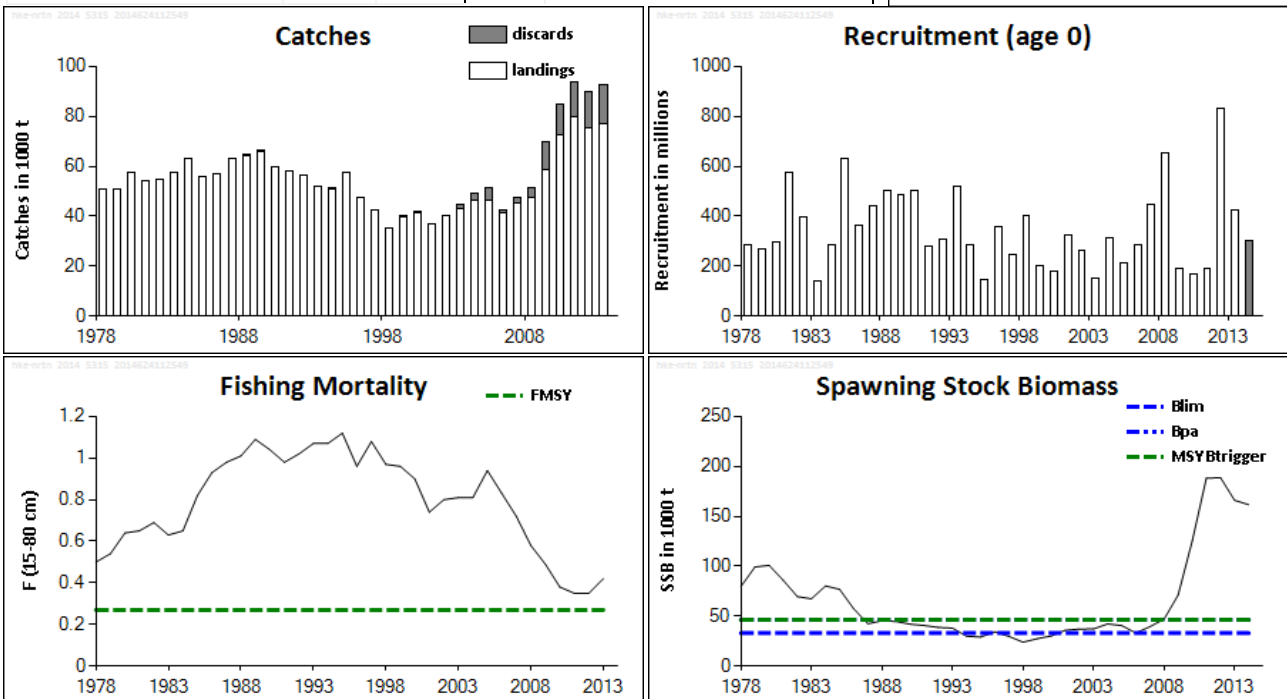
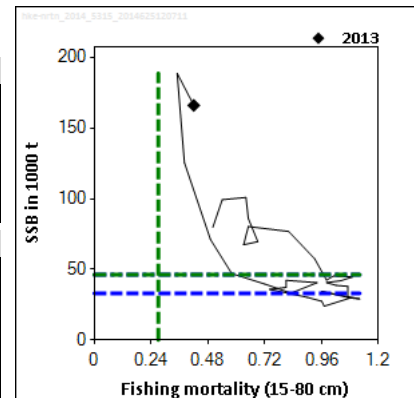


Figure 9.3.10.1 Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d. Summary of stock assessment (weights in thousand tonnes). Assumed values are shaded. NB – not all discards are displayed in the catch figure. Top right: SSB/F for the time-series used in the assessment. Predicted values are shaded.

The spawning biomass has been increasing since 1998 and has been very high in recent years. Fishing mortality, while still above F_{MSY} , has decreased significantly over the last decade. Recruitment fluctuations appear to be without substantial trend over the whole series. After low recruitments in 2009, 2010, and 2011, the recruitment in 2012 is estimated to be the highest in the time-series.

Management plans

A recovery plan was agreed by the EU in 2004 ([EC Reg. No. 811/2004](#), Annex 9.3.10). The aim of the plan is to increase the SSB to above 140 000 t with a fishing mortality (F_{MP}) of 0.25, constrained by a year-to-year change in TAC of 15% when SSB is above 100 000 t. This plan has not been evaluated by ICES. The target values used in the plan are based on reference points that are no longer considered appropriate by ICES.

Biology

Hake is widely distributed over the Northeast Atlantic shelf. Although there is no clear evidence of multiple populations in the Northeast Atlantic, ICES assumes two stock units. Hake is a top predator and cannibalistic. The northern stock is distributed over a wide area. There are two major nursery areas: in the Bay of Biscay and off southern Ireland.

The fisheries

Hake is caught in mixed fisheries together with megrim, anglerfish, and *Nephrops*; the composition of species in the fishery is dependent on the area fished and the gear used. Discards of juvenile hake can be substantial in some areas and fleets. Overall, stock discards have increased substantially in the last five years and the increase is general for all fleets. An important increase in catches has occurred in the northern part of the distribution area (Division IIIa, and Subareas IV and VI) in recent years. Several changes in fishing technology have taken place in the fishery in recent years, including increased mesh sizes in several gears, introduction of the high vertical opening trawls in the mid-1990s, and introduction of selective gears in the *Nephrops* trawl fishery of the Bay of Biscay (square mesh panel).

Catch distribution Total catch in 2013 is unknown. ICES estimates of landings = 76.7 kt (19% trawl, 23% gillnet, 26% longline, and 32% unspecified gears). Discards (2013) were 15.8 kt; 75% of the known discards are included in the assessment. Additional discards are known to occur in other fleets but the data are not available.

Effects of the fisheries on the ecosystem

Because hake is a top predator, its abundance has implications on the survival of conspecifics (cannibalism) and other species, e. g. blue whiting, horse mackerel, and sardine.

Quality considerations

Assessment data arrived after the ICES data call deadline, thus reducing time to review and audit the assessment results. Although the data were used, the delay may reduce ICES quality assurance.

The assessment suffers from some shortage of tuning data, particularly in relation to earlier years, for areas outside of Subareas VII and VIII, and for the larger individuals in the population. Discards have increased sharply in the last years for some gears in Subareas VII and VIII, but not all discards are included in the assessment. Model growth estimates are uncertain, but they are in accordance with the tagging information.

Some discards (approximately 25% of discard estimates available for recent years) are not included in the assessment. They mainly concern fleets for which discards data were not made available during the 2014 benchmark (non-Spanish trawlers in Subareas VII and VIII), or fleets for which discards have only been reported for the last two years (gillnets). For the latter, it is not yet clear if discarding is a recent practice or if it also occurred prior to 2012 but was simply not sampled and reported.

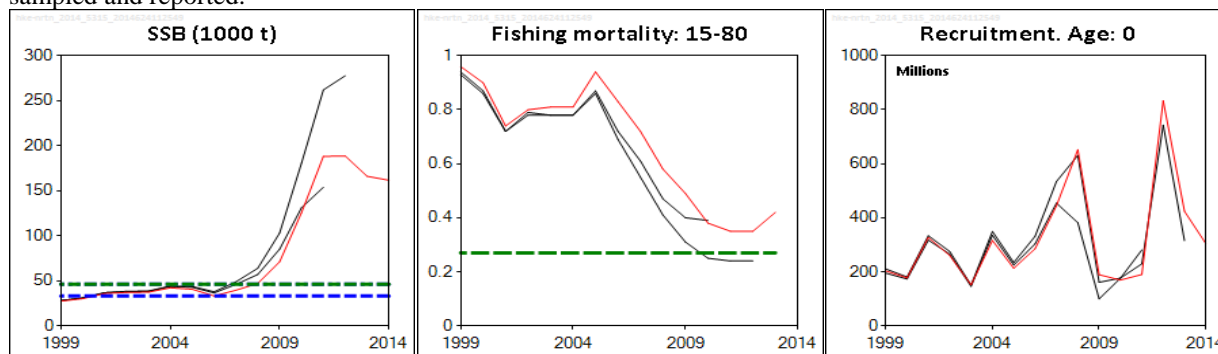


Figure 9.3.10.2 Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d. Historical assessment results (final-year recruitment estimates are included). F is based on lengths of 15–80 cm, corresponding to approximately 1–5 years old. The stock was benchmarked in 2014, which resulted in a downward revision in SSB and an upward revision in F and R in the assessment results, mainly in recent years.

Scientific basis

Stock data category	1 (ICES, 2014a).
Assessment type	Length-based model (SS3).
Input data	Commercial landings; four survey indices (EVHOE-WIBTS-Q4, SpPGFS-WIBTS-Q3, IGFS-WIBTS-Q4, and RESSGASC); maturity data: constant maturity (Martin, 1991); natural mortality: constant value (0.4).
Discards and bycatch	Data series from most fleets are available. Only 75% of the observed discards are included in the assessment (ICES, 2014b).
Indicators	None.
Other information	Benchmarked in WKSOUTH (ICES, 2014c).
Working group	Working Group for the Bay of Biscay and the Iberian Waters Ecoregion (WGBIE).

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Reference points

	<i>Type</i>	<i>Value</i>	<i>Technical basis</i>
MSY approach	MSY B_{trigger}	46 200	B_{pa} (ICES, 2014b).
	F_{MSY}	0.27	Stochastic simulations on a combined stock–recruitment relationship (ICES, 2014b).
Precautionary approach	B_{lim}	33 000	A low biomass which was followed by a quick recovery (ICES, 2014b).
	B_{pa}	46 200	$1.4 \times B_{\text{lim}}$ (ICES, 2014b).
	F_{lim}	Not defined.	
	F_{pa}	Not defined.	

(Last changed in:: 2014)

Yield and spawning biomass per Recruit F-reference points (2014)

	F (15–80 cm)	YPR (catch)	SSB PR
F_{max}	0.27	0.29	0.85
$F_{0.1}$	0.18	0.27	1.23
$F_{35\% \text{SPR}}$	0.2	0.28	1.12
$F_{30\% \text{SPR}}$	0.24	0.29	0.96

Outlook for 2015

Basis: $F(2014) = \text{Mean } F_{2011-13} = 0.38$; $SSB(2015) = 225$; $R(2014) = 304$ million (GM 1978–2011); landings (2014) = 77.916; partial discards (2014) = 22.916.

Rationale	Landings (2015)	Basis	F total (2015)	F land. (2015)	F disc. ³⁾ (2015)	Disc ³⁾ (2015)	Catch total ³⁾ (2015)	SSB (2016)	%SSB change ¹⁾	%TAC change ²⁾
MSY approach	78.457	$F_{MSY} (F_{sq} \times 0.72)$	0.27	0.2	0.07	16.791	95.248	277	23%	-4%
Recovery plan	73.477	$F_{recovery-plan} (F_{sq} \times 0.66)$	0.25	0.17	0.07	15.687	89.164	283	26%	-9%
Zero catch	0	$F = 0$	0	0	0	0	0	371	65%	-100%
Other options	12.494	$F_{sq} \times 0.1$	0.04	0.03	0.01	2.597	15.091	357	58%	-85%
	35.855	$F_{sq} \times 0.3$	0.11	0.08	0.03	7.525	43.38	328	46%	-56%
	57.204	$F_{sq} \times 0.5$	0.19	0.14	0.05	12.119	69.323	303	34%	-30%
	69.559	-15% TAC ($F_{sq} \times 0.62$)	0.23	0.17	0.07	14.823	84.382	288	28%	-15%
	76.711	$F_{sq} \times 0.7$	0.26	0.19	0.07	16.404	93.114	279	24%	-6%
	81.848	Equal TAC ($F_{sq} \times 0.76$)	0.28	0.21	0.08	17.547	99.395	273	21%	0%
	94.112	+15% TAC ($F_{sq} \times 0.9$)	0.34	0.24	0.09	20.304	114.416	258	14%	15%
	94.534	$F_{sq} \times 0.9$	0.34	0.24	0.09	20.399	114.933	257	14%	16%
	102.859	$F_{sq} \times 1$	0.38	0.27	0.1	22.296	125.155	247	10%	26%
118.422	$F_{sq} \times 1.2$	0.45	0.33	0.13	25.896	144.318	228	1%	45%	

Weights in thousand tonnes.

¹ SSB 2016 relative to SSB 2015.

² Landings 2015 relative to TAC 2014.

³ Discards included in the assessment are only partial.

MSY approach

Following the ICES MSY approach implies fishing mortality at $F_{MSY} = 0.27$, resulting in catches of no more than 95 248 tonnes and landings of no more than 78 457 tonnes in 2015. This is expected to lead to an SSB of 277 kt in 2016.

Not all discards are accounted for in the model and in the forecast, which means the total catch cannot be quantified; therefore, advice on total catch cannot be provided.

Management plan

The current recovery plan ([EC Reg. No. 811/2004](#)) uses target values based on precautionary reference points that are no longer appropriate.

Additional considerations

Discards of juvenile hake can be substantial in some areas and fleets. The spawning-stock 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. TACs have been ineffective in regulating the fishery in recent years as landings greatly exceeded the TACs. Discards of large individuals have increased in recent years because of quota restrictions in certain fleets.

Hake in the ICES area is managed and assessed as two separate stocks. There is no biological basis for the current ICES stock definition of northern and southern hake. These stocks have similar biology with an unknown degree of mixing.

Data and methods

The assessment is presently carried out with partial discards included.

There is large uncertainty associated with the estimation of discards.

Hake otoliths are currently collected but not used in the assessment due to lack of a validated ageing method. The utility of the current sampling and its level should be re-evaluated.

Management considerations

The fast growth rate and the assumed high natural mortality generates a rapid turn-over of the hake stock dynamics. This means that short-term projections of SSB and landings are very sensitive to variations in recruitment.

Uncertainties in assessment and forecast

The current assessment model, agreed at the 2014 benchmark, shows some retrospective pattern. This is mainly reflected on year-on-year upward revisions of the 2008 recruitment, linked to upward revisions of SSB and downward revisions of F in later years. A retrospective pattern could also possibly happen in relation to the high recruitment estimated for 2012, although this is unknown at present. The short-term forecast of SSB and yield obtained by this year's assessment are influenced by the high recruitment estimated in 2012, which is based on consistent observations from two surveys.

Only partial discards are included in the assessment and forecast. In order to reduce uncertainty in discard estimates, an increased sampling level for on-board observer programmes is needed for some fleets (non-*Nephrops* trawlers, gillnetters, and longliners).

The overall dynamics of the stock are sensitive to the growth parameters estimated in the model.

Comparison of the basis of previous assessment and advice

For the recent time period, there is a strong downward revision of the SSB trend compared to last year's assessment. This is the consequence of changes in the stock assessment model setting carried out during the benchmark workshop (WKSOUTH) in order to address the retrospective pattern observed in the 2013 assessment working group. Time-varying selectivity and retention is now used for some of the fleets, and this allows a better fit to the landing and discards and associated length frequency distributions.

The assessment was benchmarked in 2014 (ICES, 2014c). Compared to the assessment conducted in 2013, the sharp increase in SSB observed in the last assessment and the retrospective pattern has been moderated.

ICES approved new reference points for this stock, using the benchmarked assessment (ICES, 2014b,c). F_{MSY} , MSY , $B_{trigger}$, B_{pa} , and B_{lim} reference points have been recalculated based on this year's assessment output and the guidelines of WKMSYREF2 (ICES, 2014d).

Compared to the 2013 assessment, the current assessment estimates of SSB in 2013 have been revised downwards by 36% and the F in 2012 revised upwards by 75% because of the change in the assessment model configuration and downward revisions of incoming recruits. The basis of the advice is the same as last year: the MSY approach.

Sources

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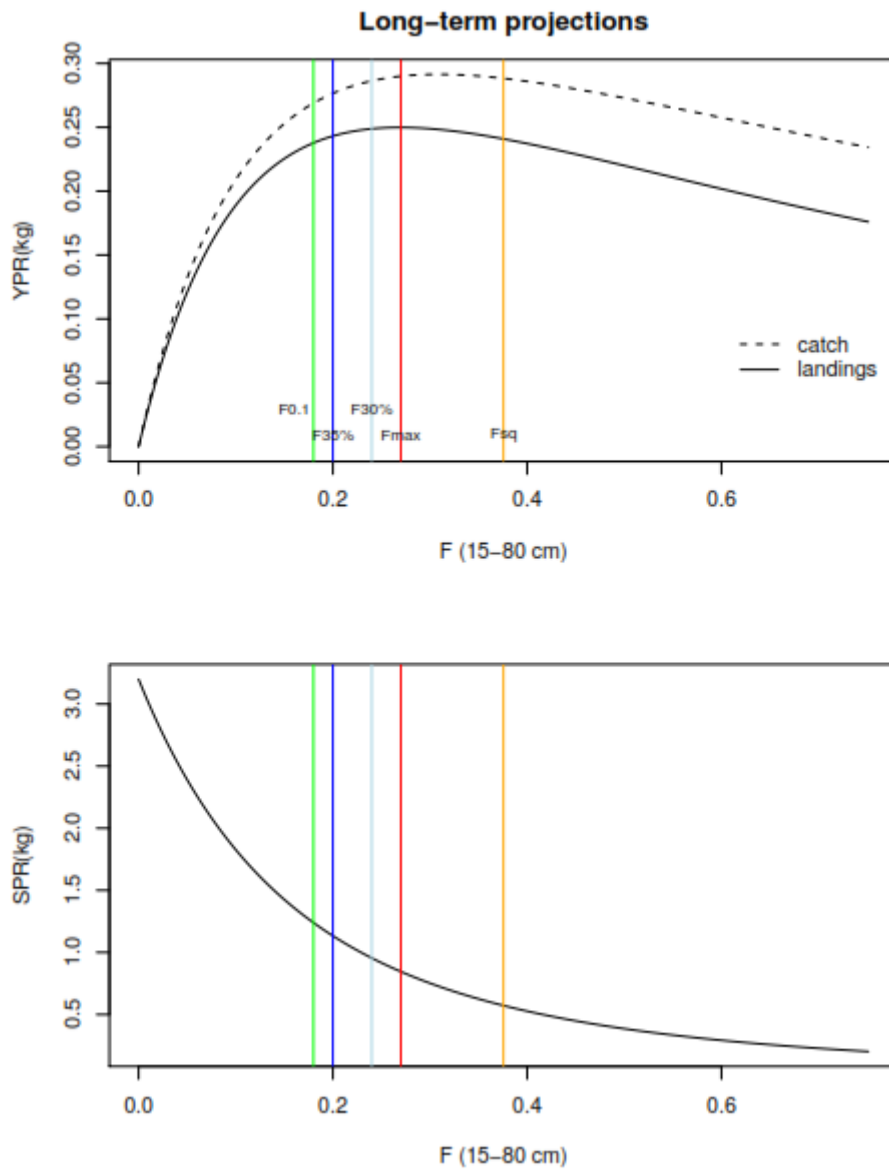


Figure 9.3.10.3 Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d. Equilibrium projections of long-term yield-per-recruit (upper panel) and SSB-per-recruit (lower panel) at different fishing mortality rates. The labels F30% and F35% in the figure refer to $F_{30\%SPR}$ and $F_{35\%SPR}$, respectively.

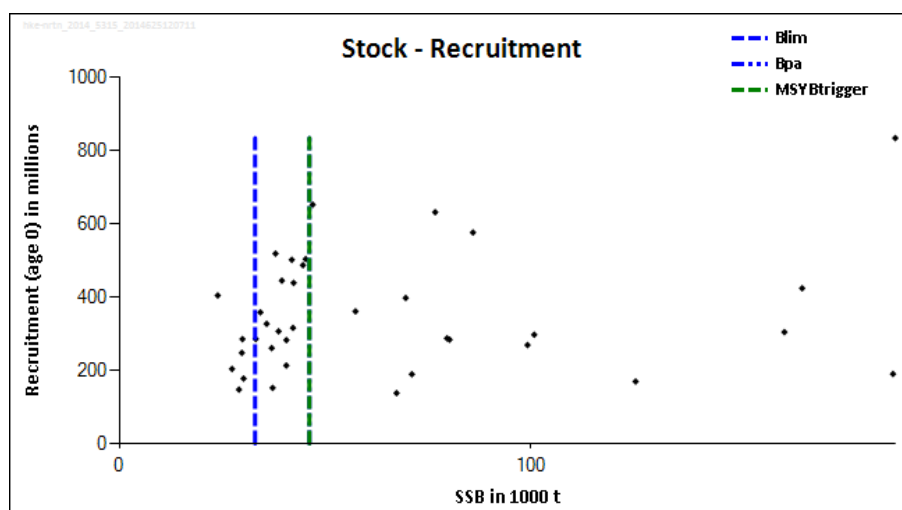


Figure 9.3.10.4 Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d. Stock–recruitment plot.

Table 9.3.10.1 Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d. ICES advice, management, landings, discards, and catches.

Year	ICES Advice	Predicted landings corresp. to advice	Agreed TAC ¹	ICES landings	Discards ²	ICES catch
1987	Precautionary TAC; juvenile protection	-	63.5	63.4		
1988	Precautionary TAC; juvenile protection	54	66.2	64.8		
1989	Precautionary TAC; juvenile protection	54	59.7	66.5		
1990	Precautionary TAC; juvenile protection	59	65.1	60.0		
1991	Precautionary TAC; juvenile protection	59	67.0	58.1		
1992	If required, precautionary TAC	61.5	69.0	56.6		
1993	Enforce juvenile protection legislation	-	71.5	52.1		
1994	F significantly reduced	< 46	60.0	51.3	*	
1995	30% reduction in F	31	55.1	57.6		
1996	30% reduction in F	39	51.1	47.2		
1997	20% reduction in F	54	60.1	42.6		
1998	20% reduction in F	45	59.1	35.0		
1999	Reduce F below F _{pa}	< 36	55.1	39.8	*	
2000	50% reduction in F	< 20	42.1	42.0	*	
2001	Lowest possible catch, recovery plan	-	22.6	36.7		
2002	Lowest possible catch / recovery plan	-	27.0	40.0		
2003	Lowest possible catch / recovery plan	-	30.0	43.1	*	
2004	70% reduction in F or recovery plan*	< 13.8	39.1	46.4	*	
2005	F=0.19	33	42.6	46.6	4.0	50.6
2006	F=0.25	44	43.9	41.5	*	
2007	Recovery plan limits	50.5	52.7	45.1	2.1	47.2
2008	Recovery plan limits	54	54	47.8	3.5	51.3
2009	F = 0.25 = F _{pa}	51.5	51.5	59.0	7.1	66.1
2010	F = 0.25 = F _{pa}	55.2	55.1	73.1	6.5	79.6
2011	See scenarios	50.6	55.1	79.6	8.0	87.6
2012	MSY transition	51.9	55.1	75.2	14.6	83.2
2013	MSY transition	45.4	69.4	76.7	15.8	92.5
2014	MSY approach	81.846	81.8			
2015	MSY approach	78.457				

Weights in thousand tonnes.

¹ Sum of area TACs, corresponding to northern stock plus Division IIa (EC zone only).

² 2010 new discard estimates. In years marked with *, partial discard estimates are available and used in the assessment. For remaining years for which no values are presented, some estimates are available but not considered valid and thus not used in the assessment.

Table 9.3.10.2

Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d. ICES estimates⁴ of landings, discards, and catches (in thousand tonnes), by ICES area.

Year	Landings (1)					Discards (2)	Catches (3)
	IVa+VI	VII	VIIIa,b	Unallocated	Total	Total	Total
1961	-	-	-	95.6	95.6	-	95.6
1962	-	-	-	86.3	86.3	-	86.3
1963	-	-	-	86.2	86.2	-	86.2
1964	-	-	-	76.8	76.8	-	76.8
1965	-	-	-	64.7	64.7	-	64.7
1966	-	-	-	60.9	60.9	-	60.9
1967	-	-	-	62.1	62.1	-	62.1
1968	-	-	-	62.0	62.0	-	62.0
1969	-	-	-	54.9	54.9	-	54.9
1970	-	-	-	64.9	64.9	-	64.9
1971	8.5	19.4	23.4	0	51.3	-	51.3
1972	9.4	14.9	41.2	0	65.5	-	65.5
1973	9.5	31.2	37.6	0	78.3	-	78.3
1974	9.7	28.9	34.5	0	73.1	-	73.1
1975	11.0	29.2	32.5	0	72.7	-	72.7
1976	12.9	26.7	28.5	0	68.1	-	68.1
1977	8.5	21.0	24.7	0	54.2	-	54.2
1978	8.0	20.3	24.5	-2.2	50.6	-	50.6
1979	8.7	17.6	27.2	-2.4	51.1	-	51.1
1980	9.7	22.0	28.4	-2.8	57.3	-	57.3
1981	8.8	25.6	22.3	-2.8	53.9	-	53.9
1982	5.9	25.2	26.2	-2.3	55.0	-	55.0
1983	6.2	26.3	27.1	-2.1	57.5	-	57.5
1984	9.5	33.0	22.9	-2.1	63.3	-	63.3
1985	9.2	27.5	21.0	-1.6	56.1	-	56.1
1986	7.3	27.4	23.9	-1.5	57.1	-	57.1
1987	7.8	32.9	24.7	-2.0	63.4	-	63.4
1988	8.8	30.9	26.6	-1.5	64.8	-	64.8
1989	7.4	26.9	32.0	0.2	66.5	-	66.5
1990	6.7	23.0	34.4	-4.2	60.0	-	60.0
1991	8.3	21.5	31.6	-3.4	58.1	-	58.1
1992	8.6	22.5	23.5	2.1	56.6	-	56.6
1993	8.5	20.5	19.8	3.3	52.1	-	52.1
1994	5.4	21.1	24.7	0.0	51.3	*	51.3
1995	5.3	24.1	28.1	0.1	57.6	-	57.6
1996	4.4	24.7	18.0	0.0	47.2	-	47.2
1997	3.3	18.9	20.3	-0.1	42.5	-	42.5
1998	3.2	18.7	13.1	0.0	35.1	-	35.1
1999	4.3	24.0	11.6	0.0	39.8	*	39.8
2000	4.0	26.0	12.0	0.0	42.0	*	42.0
2001	4.4	23.1	9.2	0.0	36.7	-	36.7
2002	2.9	21.2	15.9	0.0	40.1	-	40.1
2003*	3.3	25.4	14.4	0.0	43.2	1.4	44.6
2004*	4.4	27.5	14.5	0.0	46.4	2.6	49.0
2005*	5.5	26.6	14.5	0.0	46.6	4.6	51.1
2006*	6.1	24.7	10.6	0.0	41.5	1.2	42.7
2007*	7.0	27.5	10.6	0.0	45.1	2.2	47.3
2008*	10.7	22.8	14.3	0.0	47.8	3.4	51.2
2009*	13.1	25.3	20.4	0.0	58.8	11.0	69.8
2010*	14.2	33.5	25.1	0.0	72.8	12.1	84.9
2011*	18.8	18.6	16.6	25.7	79.7	13.9	93.6
2012*	22.4	22.2	16.7	13.9	75.2	14.9	90.1
2013*	16.2	28.5	19.9	12.1	76.7	15.8	92.5

¹ Spanish data for 1961–1972 not revised, data for Subarea VIII for 1973–1978 include data for Divisions VIIIa,b only. Data for 1979–1981 are revised based on French surveillance data. Divisions IIIa and IVb,c are included in column "IIIa, IV and VI" only after 1976. There are some unallocated landings (moreover for the period 1961–1970).

² Discard estimates from observer programmes. In years marked with *, partial discard estimates are available and used in the assessment. For remaining years for which no values are presented, some estimates are available but not considered valid and thus not used in the assessment. In the years with data only Spanish discards and discards from French Nephrops trawlers are included.

³ From 1978 total catches used by ICES.

⁴ Includes unallocated landings.

Table 9.3.10.3 Hake in Division IIIa, Subareas IV, VI, and VII, and Divisions VIIIa,b,d. Summary of stock assessment.

Year	Recruit Age 0	Total Biomass (tonnes)	Total SSB (tonnes)	Landings (tonnes)	Discards ¹ (tonnes)	Catch (tonnes)	Yield/SSB (tonnes)	F (15–80 cm)
1978	287324	117200	79690	50551	-	50551	0.63	0.5
1979	268851	126128	99256	51096	-	51096	0.51	0.54
1980	297040	123492	100894	57265	-	57265	0.57	0.64
1981	575986	106120	85959	53918	-	53918	0.63	0.65
1982	397435	97720	69609	54994	-	54994	0.79	0.69
1983	137712	103815	67400	57507	-	57507	0.85	0.63
1984	283655	109755	80299	63286	-	63286	0.79	0.65
1985	631628	95694	76796	56099	-	56099	0.73	0.82
1986	360801	79251	57405	57092	-	57092	0.99	0.93
1987	438521	74217	42371	63369	-	63369	1.5	0.98
1988	503603	76084	45315	64823	2	64825	1.43	1.01
1989	486957	76392	44629	66473	73	66546	1.49	1.09
1990	501651	70203	41921	59954	-	59954	1.43	1.04
1991	282202	66611	40595	58129	-	58129	1.43	0.98
1992	306315	65541	38697	56617	-	56617	1.46	1.02
1993	518453	58458	37977	52144	-	52144	1.37	1.07
1994	284966	52126	29930	51259	356	51615	1.71	1.07
1995	147187	58248	29068	57621	-	57621	1.98	1.12
1996	358139	53612	34293	47210	-	47210	1.38	0.96
1997	247389	46428	29755	42465	-	42465	1.43	1.08
1998	404125	43399	23901	35060	-	35060	1.47	0.97
1999	203526	47740	27370	39814	349	40163	1.45	0.96
2000	177357	53140	30181	42026	83	42109	1.39	0.9
2001	326732	53290	35813	36675	-	36675	1.02	0.74
2002	260398	56308	37037	40107	-	40107	1.08	0.8
2003	151773	61130	37271	43162	2110	45272	1.16	0.81
2004	315697	63470	42205	46417	2552	48969	1.1	0.81
2005	212952	59203	40587	46550	4676	51226	1.15	0.94
2006	285275	55787	33144	41467	1816	43283	1.25	0.83
2007	444540	62870	39527	45028	2191	47219	1.14	0.72
2008	652117	79657	47006	47739	3248	50987	1.02	0.58
2009	189117	124194	71131	58818	9871	68689	0.83	0.49
2010	169255	191076	125542	72799	9415	82214	0.58	0.38
2011	189941	228242	188146	79628	13775	93403	0.42	0.35
2012	833725	215812	188679	75232	12225	87457	0.4	0.35
2013	423847	206884	166050	76773	11637	88410	0.46	0.42
2014	304198*		161707					
Arith. mean	348783	90536	62929	54144	4649	56210		

* GM (1978–2011).

¹ Discards used in the assessment. In years with (-) discards are not available or considered unreliable.

**Annex 9.3.10 Extract from recovery plan for Northern hake: Council Regulation (EC)
No. 811/2004**

Article 1
Subject-matter

This Regulation establishes a recovery plan for the Northern hake stock which inhabits the ICES Division IIIa, ICES Sub-area IV, ICES Divisions V(b) (Community waters), VIa (Community waters), ICES Sub-area VII and ICES Divisions VIIIa,b,d,e ("the Northern hake stock").

Article 2
Purpose of the recovery plan

The recovery plan referred to in Article 1 shall aim to increase the quantities of mature fish of the Northern hake stock concerned to values equal to or greater than 140 000 tonnes.

Article 3
Reaching of target levels

Where the Commission finds, on the basis of advice from ICES and following agreement on that advice by the Scientific Technical and Economic Committee for Fisheries (STECF), that for two consecutive years the target level for the Northern hake stock concerned has been reached, the Council shall decide by qualified majority on a proposal from the Commission to replace the recovery plan by a management plan for the stock in accordance with Article 6 of Regulation (EC) No 2371/2002.

Article 4
Setting of TACs

A TAC shall be set in accordance with Article 5 where, for the Northern hake stock concerned the quantities of mature Northern hake have been estimated by the STECF, in the light of the most recent report of ICES, to be equal to or above 100 000 tonnes.

Article 5
Procedure of setting TACs

- 1. Each year, the Council shall decide by qualified majority on a proposal from the Commission on a TAC for the following year for the Northern hake stock concerned.*
- 2. For 2004, the TAC shall be set at a level corresponding to a fishing mortality of 0,25, 4% less than status quo fishing mortality. For the subsequent years of the recovery plan, the TAC shall not exceed a level of catches which scientific evaluations carried out by the STECF, in the light of the most recent reports of ICES, indicate will correspond to a fishing mortality rate of 0,25.*
- 3. The Council shall not adopt a TAC whose capture is predicted by the STECF, in the light of the most recent report of the ICES, to lead to a decrease in spawning stock biomass in its year of application.*
- 4. Where it is expected that the setting of the TAC for a given year in accordance with paragraph 2 will result in a quantity of mature fish at the end of that year in excess of the target level indicated in Article 2, the Commission will carry out a review of the recovery plan and propose any adjustments necessary on the basis of the latest scientific evaluations. Such a review shall in any event be carried out not later than 3 years following the adoption of this Regulation with the aim of ensuring that the objectives of the recovery plan are achieved.*
- 5. Except for the first year of application of this Regulation, the following rules shall apply:*
 - (a) where the rules provided for in paragraphs 2 or 4 would lead to a TAC for a given year which exceeds the TAC of the preceding year by more than 15%, the Council shall adopt a TAC which shall not be more than 15% greater than the TAC of that year or;*
 - (b) where the rule provided for in paragraphs 2 or 4 would lead to a TAC for a given year which is more than 15% less than the TAC of the preceding year, the Council shall adopt a TAC which is not more than 15% less than the TAC of that year.*

Article 6
Setting of TACs in exceptional circumstances

Where the quantities of mature fish of the Northern hake stock concerned have been estimated by the STECF, in the light of the most recent report of the ICES, to be less than 100 000 tonnes, the following rules shall apply:

- (a) Article 5 shall apply where its application is expected to result in an increase in the quantities of mature fish of the Northern hake stock concerned, at the end of the year of application of the TAC to a quantity equal to or greater than 100 000 tonnes;*
- (b) where the application of Article 5 is not expected to result in an increase in the quantities of mature fish of the Northern hake stock concerned, at the end of the year of application of the TAC, to a quantity equal to or greater than 100 000 tonnes, the Council shall decide by a qualified majority, on a proposal from the Commission, on a TAC for the following year that is lower than the TAC resulting from the application of the method described on Article 5.*