

1.4.24 Haddock in Division VIb (Rockall)

State of the stock

Spawning biomass in relation to precautionary limits	Fishing mortality in relation to precautionary limits	Fishing mortality in relation to highest yield	Fishing mortality in relation to agreed target	Comment
Unknown	Unknown	Unknown	Not defined	

The state of the stock is uncertain. Historical perspectives of fishing mortality indicate that they have been high, but the current exploitation rate is unknown. Survey-based indices of SSB show a decline since 1995 and indicate that the stock was at an historical low in 2002, but may have increased in subsequent years. Recruitment indicates a relatively strong 2001 year-class.

Management objectives

In consultation with the Russian Federation, a recovery plan has been proposed by the EC, but has not yet been implemented. The recovery plan is designed to be facilitated by quota and technical regulations.

Reference points

	ICES considers that:	ICES proposes that:
Limit reference points	B_{lim} is 6 000 t	B_{pa} be set at 9 000 t
	F_{lim} is not defined	F_{pa} be set at 0.4
Target reference points		F_y not determined

Technical basis:

$B_{lim} = B_{loss}$, the lowest observed spawning stock estimated in previous assessments.	$B_{pa} = B_{lim} * 1.4$. This is considered to be the minimum SSB required to have a high probability of maintaining SSB above B_{lim} , taking into account the uncertainty of assessments.
F_{lim} is not defined due to uninformative stock recruitment data	F_{pa} : This F is adopted by analogy with other haddock stocks as the F that provides a small probability that SSB will fall below B_{pa} in the long term.

Single-stock exploitation boundaries

Catches in 2006 should be reduced to the lowest possible level.

Management considerations

Previous to 2004, the EU TAC was set as a total for Division VI, with a limit on how much of the catch could be taken in Division VIa. The 2004 and 2005 (EU) TACs set a specific limit for the EU fleets operating in Division VIb. In addition, part of Division VIb falls (since 1999) within international waters where non-EU vessels are not subject to TAC. This allows for an unregulated fishery in the Rockall area. An international TAC applicable only to Division VIb, including international waters, would improve prospects for sustainability in the fishery in Division VIb.

However, the application of TACs implies that there is a simple relationship between recorded landings and effort exerted, and TACs are therefore likely to be effective only if the fishery strictly adheres to them. Such assumptions are unlikely to be true for Rockall haddock, especially when coupled with ways of evading TACs including mis-reporting, high grading, and discarding. In the case of Rockall haddock these may occur to a large extent due to the remote nature of the fishery and the processing of catches at sea by some fleets. Therefore, effort regulation should be considered as a means of controlling fishing mortality on Rockall haddock.

There is a need for an internationally agreed management plan. Such a plan should involve extensive collaboration between stakeholders, scientists, and management authorities in both the design and the monitoring of conservation measures. ICES notes that this is a mixed fishery that currently includes substantial catches of blue whiting and non-assessed species such as grey gurnard.

Factors affecting the fisheries and the stock

The effects of regulations

Following the NEAFC agreement in March 2001, an area of the NEAFC zone around Rockall was closed to fishing. It is too early to quantify the effect that this closure has had on the haddock stock for several reasons: An analytical assessment was not possible this year. It is necessary to know that there is effective compliance with the closed area regulations, and that the closed area continues to encompass a sufficient proportion of the population of young fish. It is also necessary to establish that the selection pattern of the fishery has improved, or the overall effort has been reduced, and that improved survival of young fish has occurred as a result.

Scientific basis

Data and methods

Information about age composition in the landings is incomplete. The total catch composition has been estimated but it is not possible to validate these estimates. Survey estimates are available from 1988-2003. In 2004-2005 new data on biology and distribution were obtained, a trawl acoustic survey was carried out and the biomass of haddock from the Rockall Bank was estimated (Oganin *et al.* 2005).

Uncertainties in assessment and forecast

The survey covers only part of the currently known distributional area of haddock. The survey index may thus in part reflect changes in distributional pattern, and not only in stock dynamics. An annual survey covering the whole of the distributional area may improve assessment of the stock status if managed under a TAC regime.

There is an urgent requirement for well-designed scientific monitoring programmes capable of delivering accurate data on trends in abundance and composition of the fish fauna throughout the area, in a form that can support the development and implementation of a management plan for Rockall Bank.

Comparison with previous assessment and advice

The assessment and the advice are the same as last year. The 2005 assessment attempted to take into account some previously unavailable data regarding discards, incomplete catch-at-age data, and discontinuous survey data.

Source of information

Report of the Working Group on the Assessment of Northern Shelf Demersal Stocks, 10-19 May 2005 (ICES CM 2006/ACFM:13).

Oganin I.A., Ratushny S.V., Astakhov A.Yu., Khlivnoy V.N. & V.I.Vinnichenko (2005). Preliminary results from the Trawl-Acoustic survey for haddock (*Melanogrammus aeglefinus*) stock on the Rockall Bank in 2005. Working Document to the Working Group on the Assessment of Northern Shelf Demersal Stocks, 2005.

Year	ICES Advice	Single-stock exploitation boundaries	Predicted catch corresp. to advice	Predicted catch corresponding to single-stock boundaries	Agreed TAC ¹	Official Landings	ACFM Landings
1987	Precautionary TAC		10.0			8.0	8.4
1988	Precautionary TAC		10.0			7.6	7.9
1989	<i>Status quo</i> F; TAC		18.0			6.6	6.7
1990	Precautionary TAC		5.5			8.2	3.9
1991	Precautionary TAC		5.5			5.9	5.7
1992	Precautionary TAC		3.8			4.5	5.3
1993	80% of F(91)		3.0			4.1	4.8
1994	If required, precautionary TAC		-			3.7	5.7 ²
1995	No long-term gain in increasing F		5.1 ³			5.5	5.6
1996	No long-term gains in increasing F		6.9 ³			6.8	7.1
1997	No advice given		4.9 ³			5.2	5.2
1998	No increase in F		4.9			5.1	4.5
1999	Reduce F below F_{pa}		3.8			6.0	5.1
2000	Reduce F below F_{pa}		< 3.5			5.7 ⁴	5.3 ⁵
2001	Reduce F below F_{pa}		< 2.7			2.3 ⁴	2.0 ⁵
2002	Reduce F below 0.2		<1.3			3.0	3.3
2003	Lowest possible F		-			6.1	6.2
2004	⁶	Lowest possible catch		-	0.702*	6.3	6.4
2005	⁶	Lowest possible catch			0.702*		
2006	⁶	Lowest possible catch					

¹TAC is set for Divisions VIa and VIb (plus Vb1, XII & XIV), combined with restrictions on the quantity that can be taken in VIa from 1990. ²Including misreporting. ³Landings at *status quo* F. ⁴Incomplete data. ⁵Russian data adjusted to exclude fish below MLS of 30 cm. ⁶ Single-stock boundary and the exploitation of this stock should be conducted in the context of mixed fisheries protecting stocks outside safe biological limits. Weights in '000 t.

*) Agreed EU TAC for VIb, XII and XIV.

Table 1.4.24.1 Nominal catch (tonnes) of HADDOCK in Division VIb, 1986–2004, as officially reported to ICES.

Country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003 ¹	2004 ¹
Faroe Islands	-	-	-	-	-	-	-	-	-	-	-	n/a	n/a			
France	... ²	... ²	... ²	... ²	... ²	... ²	... ²	-	-	*		5	2*	+	1	
Germany, Fed. Rep.	1	-	-	-	-	-	-	-	-	-	-	-	-			
Iceland	-	-	-	-	-	-	-	-	+	-	167	-	-	-		
Ireland	-	620	640	571	692	956	677	747	895	704	1,021	824	357	206	169	19 ⁵
Norway	47	38	69	47	68	75	29	24	24	40	61	152*	70*	49	60	32
Portugal	-	-	-	-	-	-	-	-	-	4	-	-	-			
Russian Federation	-	-	-	-	-	-	-	-	-	-	458	2,154	630	1,630	4,237	5,844
Spain	337	178	187	51	-	-	28	1	22	21	25	47	51	7	19	
UK (E, W & NI)	272	238	165	74	308	169	318	293	165	561	288	36	-	-	56	
UK (Scotland)	5,986	7,139	4,792	3,777	3,045	2,535	4,439	5,753	4,114	3,768	3,970	2,470	1,205	1,145 ³	1,606	411 ³
United Kingdom																1,662
Total	6,643	8,213	5,853	4,520	4,113	3,735	5,491	6,818	5,220	5,098	5,990	5,688	2,315	3,037	6,148	6,306
Unallocated	85	-	-198	800	671	1,998	-379	-543	-591	-599	-851	-357	-279	299	94	139
WG estimate	6,728	3,884	5,655	5,320	4,784	5,733	5,112	6,275	4,629	4,499	5,139	5,331	2,036 ⁴	3,336 ⁴	6,242 ⁴	6,445

¹Preliminary.

²Included in Division VIa.

³Includes UK England, Wales and NI Landings

⁴includes the total Russian catch

⁵non-official

n/a = not available.

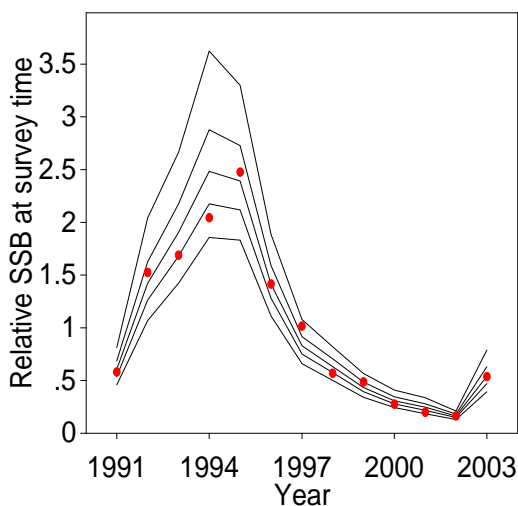


Figure 1.4.24.1 Relative trends in SSB based on the Scottish Groundfish Survey. The lines represent SSB indices of individual age groups.