

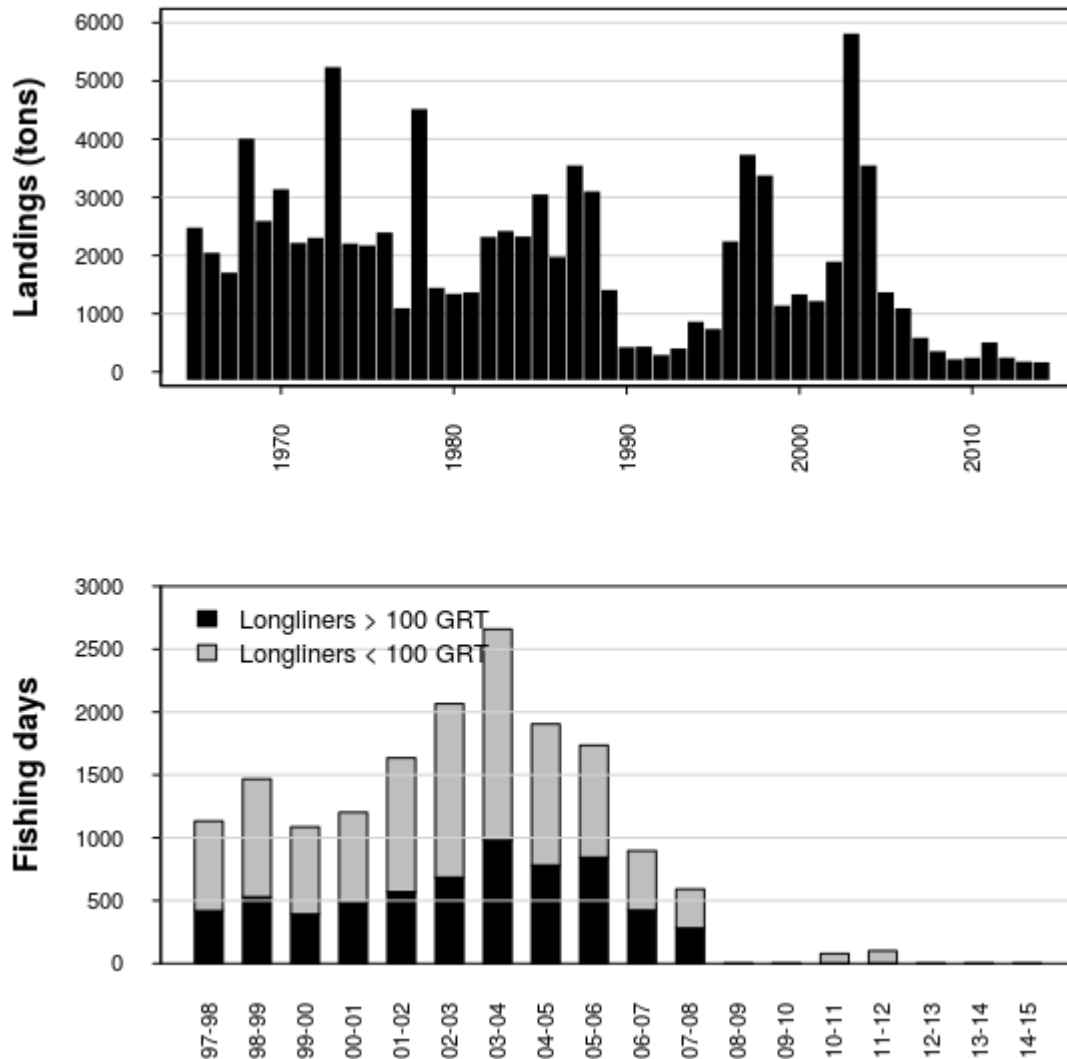
### 4.3.2 Cod (*Gadus morhua*) in Subdivision Vb<sub>2</sub> (Faroe Bank)

#### ICES stock advice

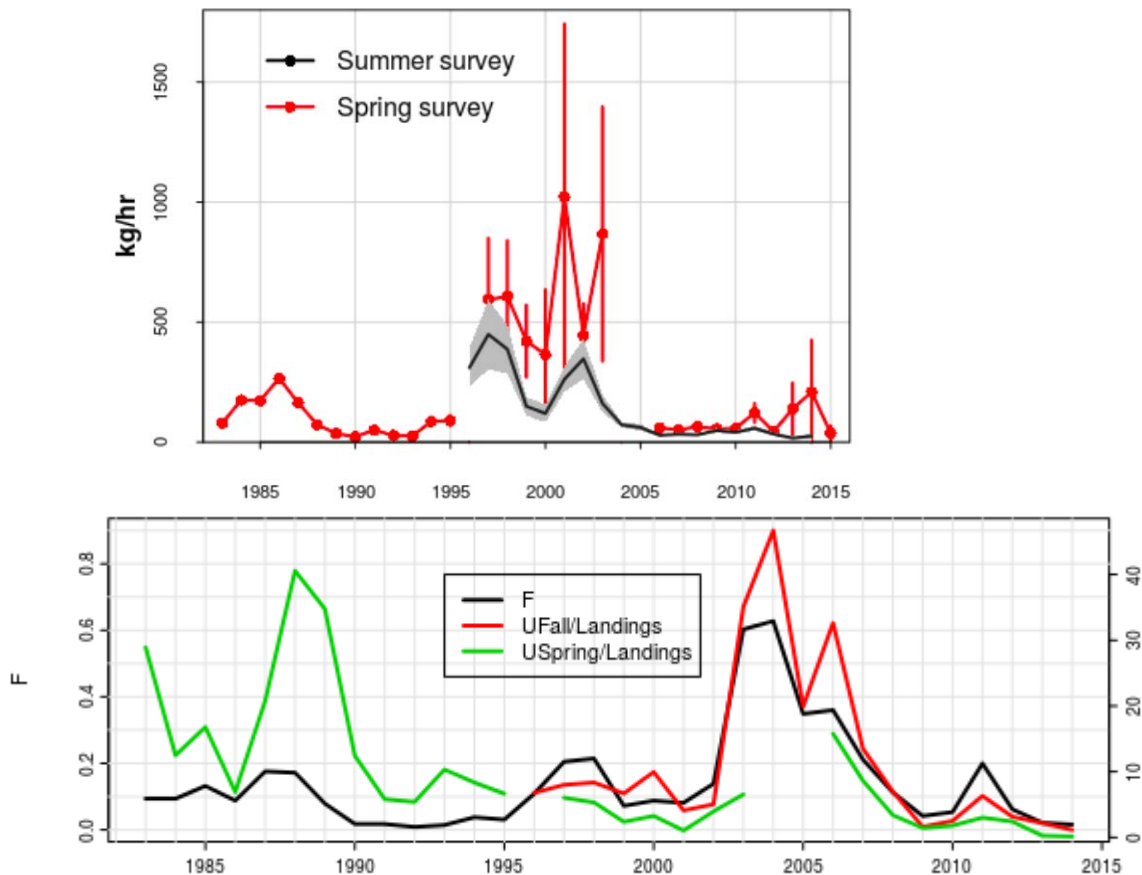
ICES advises that when the precautionary approach is applied, because of the very low stock size, the fishery should be closed. Reopening the fishery should not be considered until both survey indices indicate a biomass at or above the average of the period 1996–2002.

#### Stock development over time

Survey indices indicate that the stock is severely depleted. Exploitation ratios (proxy for fishing mortality) have remained at very low levels in recent years as a consequence of steep declines in catches.



**Figure 4.3.2.1** Cod in Subdivision Vb<sub>2</sub> (Faroe Bank). Top panel: Reported landings 1965–2014. Since 1992 only catches from Faroese and Norwegian vessels are considered to be taken on the Faroe Bank. Bottom panel: Fishing days 1997–2015 for longline gear types on the Faroe Bank.



**Figure 4.3.2.2** Cod in Subdivision Vb<sub>2</sub> (Faroe Bank). Top panel: Catch per unit of effort in the spring groundfish survey (1983–2015; red line) and summer survey (1996–2014; black line). Vertical bars and shaded areas show the standard error in the estimation of indexes. Bottom panel: estimated fishing mortality from a production model (black line) and exploitation ratio (ratio of landings to survey interpreted as an index of exploitation rate). Red = summer survey, Green = spring survey.

**Stock and exploitation status**

**Table 4.3.2.1** Cod in Subdivision Vb<sub>2</sub>. State of the stock and fishery, relative to reference points.

	Fishing pressure			Stock size						
	2012	2013	2014	2013	2014	2015				
Maximum Sustainable Yield	$F_{MSY}$	?	?	?	Undefined	MSY	?	?	?	Undefined
Precautionary approach	$F_{pa}, F_{lim}$	?	?	?	Undefined	$B_{pa}, B_{lim}$	?	?	?	Undefined
Management Plan	$F_{MGT}$	-	-	-	Not applicable	$SSB_{MGT}$	-	-	-	Not applicable
Qualitative evaluation		→	→	→	Very low		→	→	→	Very low

### Catch options

New data on landings and indices from the annual Faroese surveys do not change the perception of the stock since 2008 and do not give reason to change the advice. The advice for the fishery in 2016 is thus the same as the advice given since 2008. Therefore, ICES advises that because of the very low stock size the fishery should be closed. Reopening the fishery should not be considered until both survey indices indicate a biomass at or above the average of the period 1996–2002.

### Basis of the advice

**Table 4.3.2.2** Cod in Subdivision Vb<sub>2</sub>. The basis of the advice.

Advice basis	Precautionary approach.
Management plan	There is no management plan for this stock.

### Quality of the assessment

The assessment is based on catch rates in two research surveys, and on exploitation rates derived from landings data and survey indices. The confidence intervals for the spring survey indices are very large, while the summer survey performs better. The recent depletion of the stock is confirmed by both surveys.

The landings estimates for this stock are uncertain as the vessels since 1996 have been allowed to fish both on the Faroe Plateau and on the Faroe Bank during the same trip.

### Issues relevant for the advice

If the fishery management agency intends to manage the fisheries of the two stocks (Faroe Plateau cod and Faroe Bank cod) to protect the productive capacity of each individual stock, then it is necessary to identify the catch removed from each stock.

### Reference points

No reference points are defined for this stock.

### Basis of the assessment

**Table 4.3.2.3** Cod in Subdivision Vb<sub>2</sub>. The basis of the assessment.

ICES stock data category	3 (ICES, 2015b).
Assessment type	Qualitative based on survey trends.
Input data	Official landings and Faroese groundfish bottom trawl surveys (spring and summer).
Discards and bycatch	Negligible.
Indicators	Research surveys.
Other information	None.
Working group	North-Western Working Group ( <a href="#">NWWG</a> ).

### History of advice, catch, and management

**Table 4.3.2.4** Cod in Subdivision Vb<sub>2</sub>. History of ICES advice, the agreed TAC, and ICES estimates of landings.

Year	ICES advice	Predicted catch corresponding to advice	Agreed TAC	Official landings
1987	No assessment	-		3.5
1988	No assessment	-		3.1
1989	Addition to Faroe Plateau TAC	~2.0		1.4
1990	Access limitation may be required	-		0.6
1991	Access limitation may be required			0.4
1992	No fishing	0.3		0.3
1993	TAC	0.5		0.4
1994	TAC	0.5		1.0
1995	Precautionary TAC	0.5		1.2
1996	Precautionary TAC	0.5	1.0	2.5
1997	Effort at present levels	0.7	Not applicable	3.9
1998	Effort at present levels	-		3.5
1999	Effort not to exceed that exerted in 1996–1997	-		1.3
2000	Effort not to exceed that of 1996–1998	-		1.2*
2001	Effort not to exceed that of 1996–1999	-		1.8*
2002	Effort not to exceed that of 1996–2000	-		1.9*
2003	Effort not to exceed that of 1996–2001	-		5.7*
2004	Effort not to exceed that of 1996–2002	-		4.3*
2005	Effort not to exceed that of 1996–2002	-		1.0*
2006	Effort not to exceed that of 1996–2002	-		0.95*
2007	Effort not to exceed that of 1996–2002	-		0.45*
2008	No fishing	0		
2009	No fishing	0		
2009	No fishing	0		0.08*
2010	Same advice as last year	0		0.105*
2011	Same advice as last year	0		0.37*
2012	Same advice as last year	0		0.108*
2013	Same advice as last year	0		0.038*
2014	Same advice as last year	0		0.030*
2015	Same advice as last year	0		
2016	Same advice as last year	0		

Weights in thousand tonnes.

\* Working group estimates.

### History of catch and landings

**Table 4.3.2.5** Cod in Subdivision Vb<sub>2</sub>. Catch distribution by fleet in 2014 as estimated by ICES.

Total catch (2014)	Commercial landings	Commercial discards	Recreational catch (partially reported)
0.030 kt	0.030 kt	0	0

**Table 4.3.2.6** Cod in Subdivision Vb<sub>2</sub> (Faroe Bank). Nominal catches (tonnes) by country 1986–2014 as officially reported to ICES. From 1992 catches by the Faroe Islands and Norway are used in the assessment.

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
Faroe Islands	1 836	3 409	2 966	1 270	289	297	122	264	717	561	2 051	3 459	3 092	1 001	
Norway	6	23	94	128	72	38	32	2	8	40	55	135	147	88	
UK (E/W/Ni)	-	-	-	-	2**	1**	74**	186**	56**	43**	126***	61***	27***	-	
UK (Scotland)***	63	47	37	14	205	90	176	118	227	551	382	277	265	51	
Total	1 905	3 479	3 097	1 412	568	426	404	570	1 008	1 195	2 614	3 932	3 531	210	
Used in assessment					289	297	154	266	725	601	2 106	3 594	3 239	1 350	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Faroe Islands		1 094	1 840	5 957	3 607	1 270	1 005	471	231	81	111	393	115	40	32*
Norway	49	51	25	72	18	37	10	7	1	4	1		0		
Greenland	-	-	-	-	-	-	-	-	-	-	5		1		
UK (E/W/Ni)***	18	50	42	15	15	24	1								
UK (Scotland)	245***	288***	218***	254***	244***	1129***	278***	53	32	38	54				270
Total	312	1 483	2 125	6 298	3 884	2 460	1 294	531	264	123	171	393	116	40	302
Correction of Faroese catches in Vb2		-65	-109	-353	-214	-75	-60	-28	-14	-5	-7	-23	-7	-2	-2
Used in assessment	1 194	1 080	1 756	5 676	3 411	1 232	955	450	218	80	105	370	108	38	30

\* Preliminary.

\*\*Included in Subdivision Vb<sub>1</sub>.

\*\*\*Reported as Division Vb.

## Sources and references

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