

Cod (*Gadus morhua*) in Subdivision 5.b.2 (Faroe Bank)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, there should be zero catch in each of the years 2020, 2021, and 2022.

Stock development over time

Survey indices indicate that the stock is depleted. Exploitation ratios (proxies for fishing mortality) have remained at very low levels in recent years.

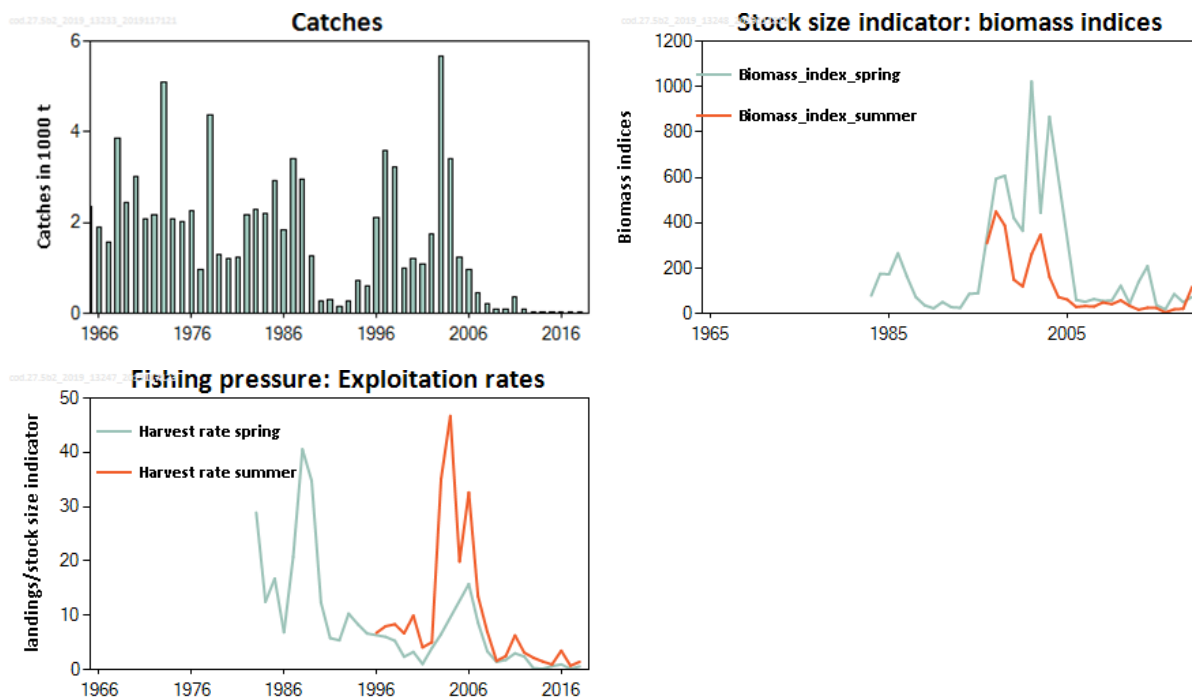


Figure 1 Cod in Subdivision 5.b.2 (Faroe Bank). Top left: ICES catches 1965–2018. Since 1992 catches on the Faroe Bank are considered to be taken only by Faroese and Norwegian vessels. Top right: Catch per unit of effort (kg h^{-1}) in the spring groundfish survey (1983–2019; blue line) and summer groundfish survey (1996–2019; orange line). Bottom left: Exploitation ratio (ratio of landings to survey CPUE interpreted as an index of exploitation rate).

Stock and exploitation status

ICES cannot assess the stock and exploitation status relative to maximum sustainable yield (MSY) and precautionary approach (PA) reference points because the reference points are undefined.

Table 1 Cod in Subdivision 5.b.2 (Faroe Bank). State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size		
		2016	2017	2018		2017	2018	2019
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	MSY	?	?
						B_{trigger}	?	?
Precautionary approach	$F_{\text{pa}}, F_{\text{lim}}$?	?	?	Unknown	$B_{\text{pa}}, B_{\text{lim}}$?	?
Management plan	F_{MGT}	—	—	—	Not applicable	B_{MGT}	—	—
Qualitative evaluation	—	✓	✓	✓	Below possible reference points	—	✗	✗

Catch scenarios

The new survey data confirm that stock biomass remains very low. ICES is not able to identify any catch levels that are likely to correspond to rebuilding of cod in this area. Therefore, ICES advises that when the precautionary approach is applied, there should be zero catch in 2020 to 2022.

Basis of the advice

Table 2 Cod in Subdivision 5.b.2 (Faroe Bank). The basis of the advice.

Advice basis	Precautionary approach.
Management plan	ICES is not aware of any agreed precautionary management plan for cod in this area.

Quality of the assessment

The assessment is based on catch rates in two research surveys, and on exploitation ratios derived from landings data and survey indices. The recent depletion of the stock is confirmed by both surveys.

The landings estimates for this stock are uncertain between 1996 and 2008 as the vessels were allowed to fish both on the Faroe Plateau and on the Faroe Bank during the same trip. Over the last 10 years catches have been limited to bycatch from fisheries in deeper waters around the Faroe Bank and catches from handling for cod.

Issues relevant for the advice

Given the current depleted status of the stock, it is likely to take several years for any possible recovery. Therefore, the advice is given for the next three years (2020–2022). Reopening the fishery should not be considered until both survey indices indicate a biomass at or above the average of the period 1996–2002 for at least some years.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 3 Cod in Subdivision 5.b.2 (Faroe Bank). Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2018).
Assessment type	Qualitative based on survey trends (ICES, 2019).
Input data	Landings and Faroese groundfish bottom trawl surveys (spring and summer).
Discards and bycatch	Discarding is considered negligible.
Indicators	None.
Other information	None.
Working group	North-Western Working Group (NWWG)

Information from stakeholders

There is no additional available information.

History of the advice, catch, and management

Table 4 Cod in Subdivision 5.b.2 (Faroe Bank). History of ICES advice, the agreed TAC, and landings. All weights are in tonnes.

Year	ICES advice	Predicted catch corresponding to advice	Agreed TAC**	Landings*
1987	No assessment	-		3500
1988	No assessment	-		3100
1989	Addition to Faroe Plateau TAC	~2000		1400
1990	Access limitation may be required	-		600
1991	Access limitation may be required			400
1992	No fishing	300		154
1993	TAC	500		266
1994	TAC	500		725
1995	Precautionary TAC	500		601
1996	Precautionary TAC	500	1000	2106
1997	Effort at present levels	700		3594
1998	Effort at present levels	-		3239
1999	Effort not to exceed that exerted in 1996–1997	-		1001
2000	Effort not to exceed that of 1996–1998	-		1194
2001	Effort not to exceed that of 1996–1999	-		1080
2002	Effort not to exceed that of 1996–2000	-		1756
2003	Effort not to exceed that of 1996–2001	-		5676
2004	Effort not to exceed that of 1996–2002	-		3411
2005	Effort not to exceed that of 1996–2002	-		1232
2006	Effort not to exceed that of 1996–2002	-		955
2007	Effort not to exceed that of 1996–2002	-		450
2008	No fishing	0		218
2009	No fishing	0		80
2010	Same advice as last year	0		105
2011	Same advice as last year	0		370
2012	Same advice as last year	0		108
2013	Same advice as last year	0		38
2014	Same advice as last year	0		39
2015	Same advice as last year	0		24
2016	Same advice as last year	0		19
2017	Precautionary approach	0		14
2018	Precautionary approach	0		31
2019	Precautionary approach	0		
2020	Precautionary approach	0		
2021	Precautionary approach	0		
2022	Precautionary approach	0		

* Prior to 1992 official landings are presented, thereafter ICES estimates are presented (catches on the Faroe Bank are considered to be taken only by Faroese and Norwegian vessels).

** Not applicable since 1997.

History of the catch and landings

Table 5 Cod in Subdivision 5.b.2 (Faroe Bank). Catch distribution by fleet in 2018 as estimated by ICES. All weights are in tonnes.

Catch (2018)	Landings	Discards
31 t	100% handlines	Negligible
	31 t	

Table 6 Cod in Subdivision 5.b.2 (Faroe Bank). Nominal catches by country 1986–2018 as officially reported to ICES. From 1992 catches by the Faroe Islands and Norway are used in the assessment. All weights are in tonnes.

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Faroe Islands	1836	3409	2966	1270	289	297	122	264	717	561	2051	3459	3092	1001
Norway	6	23	94	128			32	2	8	40	55	135	147	88
UK (E/W/Ni)	-	-	-	-										
UK (Scotland)	63	47	37	14										
Total	1905	3479	3097	1412										
ICES estimates	1905	3479	3097	1412	289	297	154	266	725	601	2106	3594	3239	1350
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Faroe Islands		1094	1840	5957	3607	1270	1005	471	231	81	111	393	115	40
Norway	49	51	25	72	18	37	10	7	1	4	1		0	
Correction of Faroese catches in Subdivision 5.b.2	1145	-65	-109	-353	-214	-75	-60	-28	-14	-5	-7	-23	-7	-2
ICES estimates	1194	1080	1756	5676	3411	1232	955	450	218	80	105	370	108	38
	2014	2015	2016	2017	2018*									
Faroe Islands	40	26	19	14	33									
Norway	1	0	1	1										
Correction of Faroese catches in Subdivision 5.b.2	-2	-2	-1	-1	-2									
ICES estimates	39	24	19	14	31									

* Preliminary.

Summary of the assessment

Table 7 Cod in Subdivision 5.b.2 (Faroe Bank). Catch per unit of effort (kg h⁻¹) in the spring and summer groundfish surveys and exploitation ratios (ratios of landings to survey CPUE, interpreted as an index of exploitation rate). When no survey index value was available, cells are left blank.

Year	Total	Biomass_index_spring	Biomass_index_summer	Exploitation rate spring	Exploitation rate summer
1965	2341				
1966	1909				
1967	1569				
1968	3871				
1969	2457				
1970	3002				
1971	2079				
1972	2168				
1973	5101				
1974	2068				
1975	2036				
1976	2258				
1977	959				
1978	4379				
1979	1306				
1980	1203				
1981	1229				
1982	2184				
1983	2284	78.992		28.91	
1984	2189	175.213		12.49	
1985	2913	173.466		16.79	
1986	1836	266.094		6.90	
1987	3409	164.042		20.78	
1988	2966	73.115		40.57	
1989	1270	36.554		34.74	
1990	289	23.243		12.43	
1991	297	50.974		5.83	
1992	154	28.433		5.42	
1993	266	25.757		10.33	
1994	725	86.737		8.36	
1995	601	90.173		6.66	
1996	2106		310.503		6.78
1997	3594	593.417	449.155	6.06	8.00
1998	3239	607.411	387.066	5.33	8.37
1999	1001	420.997	149.543	2.38	6.69
2000	1194	364.506	119.904	3.28	9.96
2001	1080	1022.308	262.59	1.06	4.11
2002	1756	443.881	347.158	3.96	5.06
2003	5676	867.092	161.768	6.55	35.09
2004	3411		73.04		46.70
2005	1232		61.879		19.91
2006	955	60.505	29.272	15.78	32.62
2007	450	52.06	33.313	8.64	13.51
2008	218	64.018	31.174	3.41	6.99
2009	80	55.497	49.268	1.44	1.62
2010	105	58.077	41.642	1.81	2.52
2011	370	122.401	58.541	3.02	6.32
2012	108	44.539	34.253	2.42	3.15
2013	38	138.982	17.373	0.27	2.19
2014	39	209.203	25.754	0.19	1.51
2015	24	37.185	24.82	0.65	0.97
2016	19	19.09	5.418	1.00	3.51

Year	Total	Biomass_index_spring	Biomass_index_summer	Exploitation rate spring	Exploitation rate summer
2017	14	86.206	18.921	0.16	0.74
2018	31	50.558	21.153	0.61	1.47
2019		73.344	117.366		

Sources and references

ICES. 2018. Advice basis. *In* Report of the ICES Advisory Committee, 2018. ICES Advice 2018, Book 1, Section 1.2. <https://doi.org/10.17895/ices.pub.4503>.

ICES. 2019. North-Western Working Group (NWWG). ICES Scientific Reports, 1:14. <http://doi.org/10.17895/ices.pub.5298>.

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