

Beaked redfish (*Sebastes mentella*) in Division 14.b, demersal (Southeast Greenland)

ICES advice on fishing opportunities

ICES advises that analyses for this stock have not been updated but that the advice for 2020 remains valid. ICES advises that when the precautionary approach is applied, catches in 2021 should be no more than 914 tonnes.

Note: This advice sheet is abbreviated due to the Covid-19 disruption. The previous advice issued for 2020 is attached as Annex 1.

Stock development over time

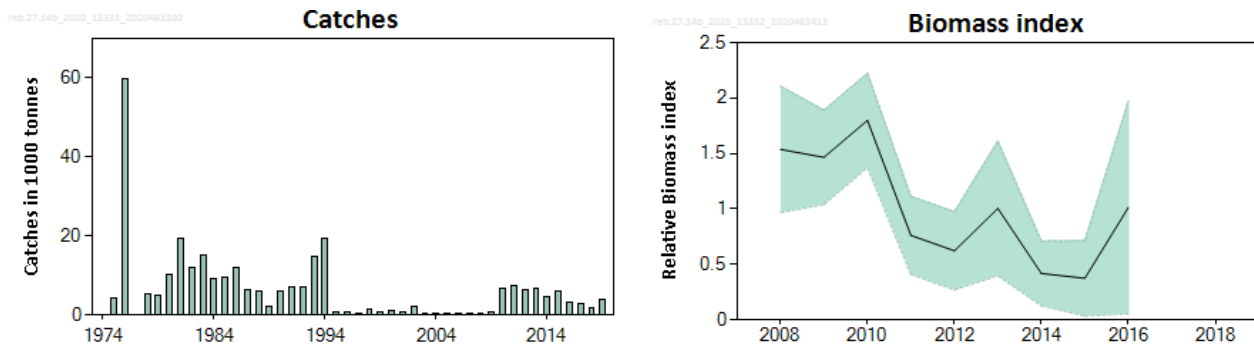


Figure 1 Beaked redfish in Division 14.b, demersal. Summary of the stock assessment. Left: Catches in 1974–2019. Right: Relative biomass index of beaked redfish > 17 cm from the Greenland Shallow Water survey (GRL-GFS; 0–600 m), with no surveys in 2017, 2018, and 2019. The median (solid line) and 95% confidence intervals (shaded area) are shown in the plot.

Stock and exploitation status

Table 1 Beaked redfish in Division 14.b, demersal. State of the stock and the fishery relative to reference points.

		Fishing pressure				Stock size			
		2017	2018	2019		2017	2018	2019	
Maximum sustainable yield	F_{MSY}	?	?	?	Unknown	$MSY B_{trigger}$?	?	?
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Unknown	B_{pa}, B_{lim}	?	?	?
Management plan	F_{MGT}	—	—	—	Not applicable	B_{MGT}	—	—	—
Qualitative evaluation	—	?	?	?	Unknown	—	?	?	?

Catch scenarios

Table 2 Beaked redfish in Division 14.b, demersal. The basis for the catch scenarios.

Advised catch for 2020	914 tonnes	
Discard rate	Negligible	
Precautionary buffer	Not applied (last applied in 2018)	-
% advice change	0	
Advised catch for 2021	914 tonnes	

History of the advice, catch, and management

Table 3 Beaked redfish in Division 14.b, demersal. ICES advice and catch. Advice prior to 2011 was provided for beaked redfish (*S. mentella*) in Subarea 14 and Division 5.a (Icelandic slope stock). Weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	Agreed TAC	ICES catch
2011	No expansion of fishery	-	6000	7376
2012	No expansion of fishery	< 1000	6800*	6243
2013	Precautionary approach	< 3500	6800*	6761
2014	No new advice same as for 2013	< 3500	6800*	4608
2015	No new advice same as for 2013	< 3500	6800*	5977
2016	Precautionary approach	< 2240	3400**	3061
2017	Precautionary approach	< 1120	2240**	3027
2018	Precautionary approach	< 1142	1142**	1972
2019	Precautionary approach	< 914	914**	3998
2020	Precautionary approach	< 914	914	
2021	Precautionary approach	≤ 914		

* A TAC of 8500 tonnes was set for *S. mentella* and *S. norvegicus*. *Sebastes mentella* is expected to constitute 80% (6800 tonnes) of the catch.

** In an agreement between Greenland and Iceland, 10% of the TAC set for *S. norvegicus* goes to Greenland.

Summary of the assessment

Table 4 Beaked redfish in Division 14.b, demersal. Assessment summary (catch weights are in tonnes). High and low represent 95% confidence intervals.

Year	Relative biomass index	Relative biomass index High	Relative biomass index Low	Catches
2008	1.54	2.1	0.97	92
2009	1.47	1.89	1.04	895
2010	1.80	2.2	1.37	6613
2011	0.76	1.11	0.41	7376
2012	0.62	0.98	0.27	6243
2013	1.00	1.61	0.40	6761
2014	0.42	0.71	0.127	4608
2015	0.38	0.72	0.035	5977
2016	1.01	1.97	0.055	3061
2017	*	*	*	3027
2018	*	*	*	1972
2019	*	*	*	3998

* No survey index estimates are available for 2017, 2018, and 2019.

Sources and references

ICES. 2020. North-Western Working Group (NWWG). ICES Scientific Reports. 2:51. 431 pp.
<http://doi.org/10.17895/ices.pub.6051>

Recommended citation: ICES. 2020. Beaked redfish (*Sebastes mentella*) in Division 14.b, demersal (Southeast Greenland). In Report of the ICES Advisory Committee, 2020. ICES Advice 2020, reb.27.14b.
<https://doi.org/10.17895/ices.advice.5847>.

Annex 1

ICES Advice on fishing opportunities, catch, and effort
Greenland Sea and Oceanic Northeast Atlantic ecoregions
Published 13 June 2019

Beaked redfish (*Sebastes mentella*) in Division 14.b, demersal (Southeast Greenland)

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, catches in 2020 should be no more than 914 tonnes.

Stock development over time

The survey biomass index shows a declining trend.

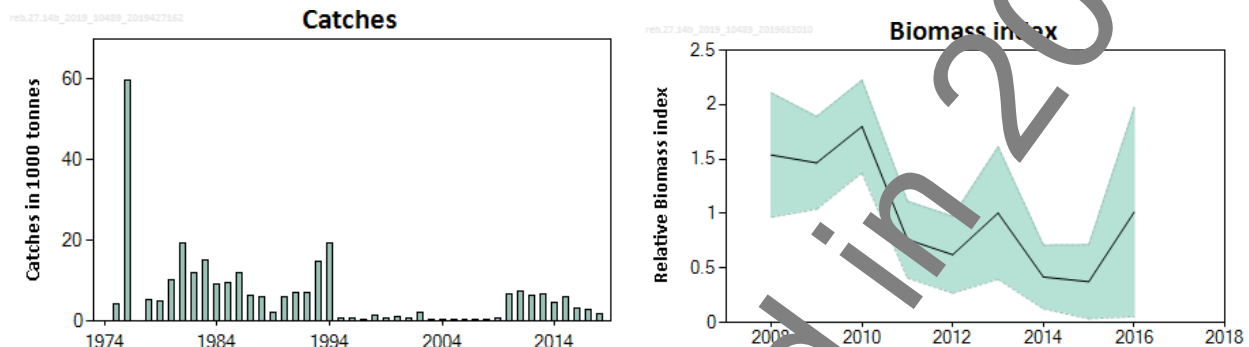


Figure 1 Beaked redfish in Division 14.b, demersal. Summary of the stock assessment. Left: Catches in 1974–2018. Right: Relative biomass index of beaked redfish > 17 cm from the Greenland Shallow Water survey (GRL-GFS) (0–600 m) with no survey in 2017 and 2018; median (solid line) and 95% confidence intervals (shaded area) are plotted.

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 Beaked redfish in Division 14.b, demersal. State of the stock and fishery relative to reference points.

		Fishing pressure			Stock size			
		2016	2017	2018	2016	2017	2018	
Maximum sustainable yield	F_{MSY}	?	?	?	MSY $B_{trigger}$?	?	?
Precautionary approach	F_{pa}, F_{lim}	?	?	?	B_{pa}, B_{lim}	?	?	?
Management plan	F_{MGT}	—	—	—	B_{MGT}	—	—	—
Qualitative evaluation	-	?	?	?	-	?	?	?

Catch scenarios

No new information on biomass was available in 2017 and 2018, and an update of the ICES framework for category 3 stocks could not be applied this year. The precautionary buffer was applied in 2018 and has, therefore, not been applied again. Discarding is considered negligible.

Table 2 Beaked redfish in Division 14.b, demersal. The basis for the catch scenarios.

Advised catch for 2019		914 tonnes
Discard rate		Negligible
Precautionary buffer	Not applied	-
% Advice change		0
Advised catch for 2020		914 tonnes

The advice for this year is the same as that for last year.

Basis of the advice

Table 3 Beaked redfish in Division 14.b, demersal. The basis of the advice.

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

Quality of the assessment

No new survey estimates were available in 2017 and 2018; therefore, there is no new information on the stock development. The survey index had large uncertainties in 2016, because one haul accounted for 70% of the total survey biomass.

Connection to other stocks of *S. mentella* remains unresolved, and their effect on survey estimates and catches is unknown.

Without updated survey information ICES will not be able to assess stock trends in 2020.

Issues relevant for the advice

The fishery is a mixed fishery on *S. mentella* and *S. norvegicus* based on a joint TAC. To ensure that the *S. mentella* stock is exploited sustainably, management measures should be implemented at stock level. From 2009 to 2015 *S. mentella* dominated the catches; since 2016 *S. norvegicus* has dominated the catches. In recent years the fishery pattern has changed and the fishery is now operating in shallower waters, which may account for some of the change in species composition of the catch.

S. mentella is a slow-growing, late-maturing species and is therefore considered vulnerable to overexploitation. Survey estimates have consistently shown very low abundance of juveniles (Figure 2). This is consistent with patterns seen in a number of other redfish stocks. No survey was conducted in 2018. The absence of indications of incoming cohorts raises concerns about the future productivity of the stock.

Due to changes in the fishing licenses in 2016 the fishers are required to report the catch at species level in the logbooks. Species identification is difficult, and declared catch by species is uncertain.

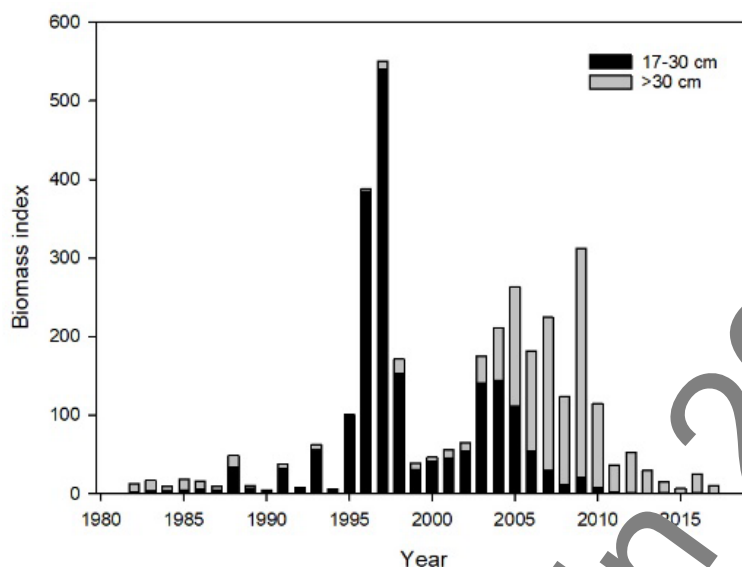


Figure 2 *Sebastes mentella* biomass of individuals size 17–30 cm (black) and >30 cm (grey). GER(GRL)-GFS-Q4 (0–400 m). No survey in 2018.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 4 Beaked redfish in Division 14.b, demersal. Basis of the assessment and advice.

ICES stock data category	3 (ICES, 2018).
Assessment type	Survey trend-based assessment (ICES, 2019).
Input data	Survey index (GRL-GFS).
Discards and bycatch	Discarding is considered negligible.
Indicators	Survey indices GER(GRL)-GFS-Q4.
Other information	The stock was benchmarked in 2012 (ICES, 2012).
Working group	North-Western Working Group (NWWG).

Information from stakeholders

There is no additional available information for this stock.

History of the advice, catch, and management

Table 5 Beaked redfish in Division 14.b, demersal. ICES advice and official landings. Advice prior to 2011 was given for beaked redfish (*S. mentella*) in Subarea 14 and Division 5.a (Icelandic slope stock). Weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	Agreed TAC for demersal redfish in Greenland EEZ	ICES catch
2011	No expansion of fishery	-	6000	7376
2012	No expansion of fishery	< 1000	6800*	6243
2013	Precautionary approach	< 3500	6800*	6761
2014	No new advice same as for 2013	< 3500	6800*	4608
2015	No new advice same as for 2013	< 3500	6800*	5977
2016	Precautionary approach	< 2240	3400**	3061
2017	Precautionary approach	< 1120	2200**	3027
2018	Precautionary approach	< 1142	1140**	1927
2019	Precautionary approach	< 914	910**	
2020	Precautionary approach	< 914		

* A TAC of 8500 tonnes was set for *S. mentella* and *S. norvegicus*. *Sebastes mentella* is expected to constitute 80% of the catch which is 6800 tonnes.

** In an agreement between Greenland and Iceland, 10% of the TAC set for *S. norvegicus* goes to Greenland.

History of the catch and landings

Table 6 Beaked redfish in Division 14.b, demersal. Catch distribution by fleet in 2018 as estimated by ICES. All weights are in tonnes.

Catch (2018)	Landings		Discards
	Bottom trawl 99%	Longline 1%	
1927			Considered negligible

Table 7 Beaked redfish in Division 14.b, demersal. Total catch as estimated by ICES.

Year	Catch (t)	Year	Catch (t)
1974	0	2000	982
1975	100	2001	901
1976	59700	2002	2109
1977	0	2003	446
1978	5403	2004	482
1979	5131	2005	267
1980	10406	2006	202
1981	19391	2007	226
1982	12140	2008	92
1983	15207	2009	895
1984	9126	2010	6613
1985	9376	2011	7376
1986	12138	2012	6243
1987	6407	2013	6761
1988	6065	2014	4608
1989	2284	2015	5977
1990	6097	2016	3061
1991	7057	2017	3027
1992	7022	2018	1927
1993	14828		
1994	19305		
1995	819		
1996	730		
1997	199		
1998	1376		
1999	853		

Summary of the assessment

Table 8 Beaked redfish in Division 14.b, demersal. Assessment summary (catch weights are in tonnes).

Year	Biomass index*	Biomass index High	Biomass index Low	Catches
2008	1.54	2.1	0.97	92
2009	1.47	1.89	1.04	895
2010	1.80	2.2	1.37	6613
2011	0.76	1.11	0.41	7376
2012	0.62	0.98	0.27	6243
2013	1.00	1.61	0.40	6761
2014	0.42	0.71	0.27	4608
2015	0.38	0.72	0.33	5977
2016	1.01	1.97	0.55	3061
2017				3027
2018				1927

* No survey index estimate available for 2017 and 2018.

Sources and references

ICES. 2012. Report of the Benchmark Workshop on Redfish Stocks (WKRED), 1–8 February 2012, Copenhagen, Denmark. ICES CM 2012/ACOM:48. 291 pp. <https://doi.org/10.17895/ices.pub.528>.

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. ICES Scientific Reports 1.14. 105 pp. <http://doi.org/10.17895/ices.pub.5298>.

Recommended citation: ICES. 2019. Beaked redfish (*Sebastes norvegicus*) in Division 14.b, demersal (Southeast Greenland). In Report of the ICES Advisory Committee, 2019. ICES Advice 2019, reb.27.14b, <https://doi.org/10.17895/ices.advice.4739>