

Megrim (*Lepidorhombus* spp.) in Division 6.b (Rockall)

ICES advice on fishing opportunities

ICES advises that when the MSY approach is applied, catches in 2023 should be no more than 1022 tonnes.

ICES notes the existence of a precautionary management plan, developed and adopted by one of the relevant management authorities for this stock.

Management should be implemented at the stock level.

Stock development over time

Fishing pressure on the stock is below F_{MSY} and biomass is above MSY $B_{trigger}$ and B_{lim} .

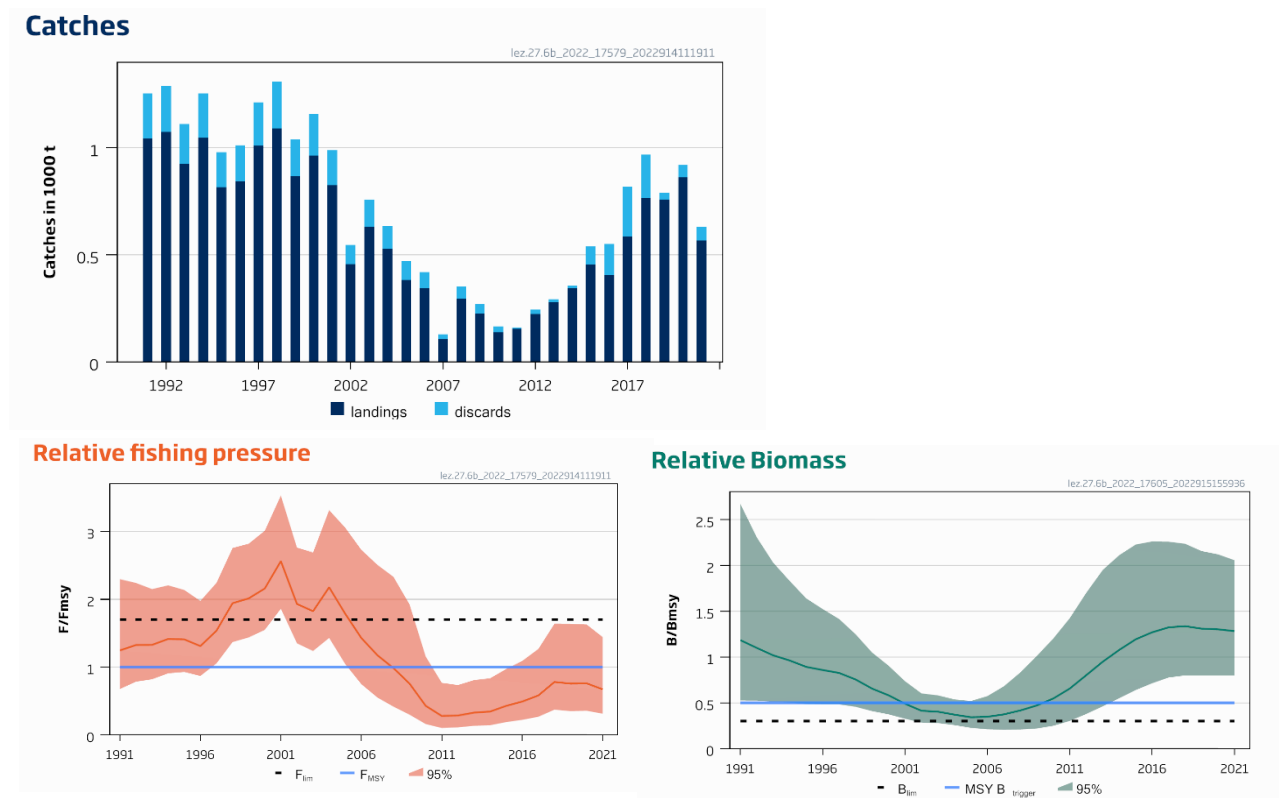


Figure 1 Megrim in Division 6.b. Summary of the stock assessment. Discard data are only available since 2005; values prior to that are assumed to be 20% of landings based on the observed ratio from 2017 to 2020.

Catch scenarios

Table 1 Megrim in Division 6.b. Assumptions made for the interim year and in the forecast.

Variable	Value	Notes
$F(2022)/F_{MSY}$	0.62	F corresponding to <i>status quo</i> catch
$B(2023)/B_{MSY}$	1.31	Short term forecast (STF) with <i>status quo</i> catch
Catch (2022)	759	Status quo catch (average 2019-2021) ; in tonnes

Table 2 Megrim in 6.b. Annual catch scenarios. All weights are in tonnes.

Basis	Total catch (2023)	F_{2023}/F_{MSY}	B_{2024}/B_{MSY}	% B change [^]	% advice change ^{^^}
ICES advice basis					
MSY approach (35 th percentile of predicted catch distribution under $F = F_{MSY}$)	1022	0.91	1.26	-3.7	2.9
Other scenarios					
F_{MSY}	1116	1.00	1.24	-5.2	12.3
F_{2021}	793	0.69	1.31	-0.06	-20
$F=0$	0	0	1.47	12.4	-100

[^] Biomass 2024 relative to biomass 2023.

^{^^} Advice value for 2023 relative to the advice value for 2022 (994 tonnes).

Basis of the advice

Table 3 Megrim in Division 6.b. The basis of the advice.

Advice basis	MSY approach
Management plan	ICES is aware of the multiannual management plan (MAP) which has been adopted by the EU for this stock (EU, 2019) and which ICES considers to be precautionary. There is no agreed shared management plan with the UK for this stock, and ICES provides advice according to its MSY approach.

Quality of the assessment

The SCO-IV-VI-AMISS-Q2 survey was unable to sample Division 6.b in 2022 due to logistics, so no value for the index is available (or in 2020 due to the COVID-19 pandemic). Sensitivity analyses showed the assessment to be robust to missing survey data to the current extent.

Issues relevant for the advice

There is a mismatch between management and assessment area, and as a result there is a potential for catches to exceed advice.

Reference points

Table 4 Megrim in Division 6.b. Reference points, values, and their technical basis.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger}$	$0.5 \times B_{MSY}$	Relative value (B/B_{MSY}) from the SPiCT assessment model. B_{MSY} is estimated directly from the SPiCT model and changes when the assessment is updated	ICES (2021)
	F_{MSY}	$1 \times F_{MSY}$	Relative value (F/F_{MSY}) from the SPiCT assessment model. F_{MSY} is estimated directly from the SPiCT model and changes when the assessment is updated.	ICES (2021)
Precautionary approach	B_{lim}	$0.3 \times B_{MSY}$	Relative value (B/B_{MSY}) (equilibrium yield at this biomass is 50% of MSY)	ICES (2021)
	B_{pa}	Not defined		
	F_{lim}	$1.7 \times F_{MSY}$	Relative value (F/F_{MSY}) (the F that drives the stock to B_{lim})	ICES (2021)
	F_{pa}	Not defined		

Framework	Reference point	Value	Technical basis	Source
Management plan	SSB _{mgt}	Not defined		
	F _{mgt}	Not defined		

* No reference points are defined for this stock in terms of absolute values. The SPiCT estimated values of the ratios F/F_{MSY} and B/B_{MSY} are used to estimate stock status relative to the MSY reference points.

Basis of the assessment

Table 5 Megrim in Division 6.b. Basis of the assessment and advice.

ICES stock data category	2 (ICES, 2022a)
Assessment type	Surplus Production model in Continuous Time (SPiCT; ICES, 2022b)
Input data	Commercial landings and discard estimates; one dedicated industry–science survey index (SCO-IV-VI-AMISS-Q2 [G1794])
Discards and bycatch	Discard estimates are available from 2005 onwards. Prior to 2005 discards were assumed to be 20% of landings based on the observed ratio 2017 to 2020.
Indicators	None
Other information	Last benchmarked in 2021 (ICES, 2021)
Working group	Working Group for the Celtic Seas Ecoregion (WGCSE)

History of the advice, catch, and management

Table 6 Megrim in Division 6.b. ICES advice, official landings, and ICES estimates of landings and discards. All weights are in tonnes.

Year	ICES advice*	Catches corresponding to advice	Landings corresponding to advice	Agreed TAC Division 5.b (EC) and subareas 6, 12, and 14	Official landings Division 6.b	ICES landings	ICES discards**
1990	Not assessed		-	4840	804		
1991	No advice		-	4840	1045	1045	
1992	No advice		-	4840	1073	1073	
1993	No long-term gain in increased F		-	4840	925	925	
1994	No long-term gain in increased F		-	4840	1046	1046	
1995	No advice		-	4840	816	816	
1996	No advice		-	4840	843	843	
1997	No advice		-	4840	1009	1009	
1998	Adequate catch controls		-	4840	1091	1091	
1999	Maintain current TAC		4840	4840	866	866	
2000	Maintain current TAC		4840	4840	964	964	
2001	Maintain current TAC		4840	4360	824	824	
2002	Maintain current TAC		4360	4360	455	455	
2003	Maintain current TAC		4360	4360	632	632	
2004	Reduce TAC to recent landings		3600	3600	528	528	
2005	Reduce TAC to recent landings		2300	2880	382	382	87
2006	Reduce TAC to recent landings		2300	2880	344	344	75
2007	Reduce TAC to recent landings		2100	2880	106	106	22
2008	Reduce TAC to recent landings		1400	2592	294	294	59
2009	Same advice as last year		1400	2799	226	226	44
2010	No increase in effort		-	3079	139	139	26
2011	No increase in catches		-	3387	155	155	7
2012	No increase in catches		-	3387	224	224	21
2013	Catch decrease by 7%		< 160	3387	278	278	15
2014	Landings increase of no more than 20%		< 207	4074	343	343	15
2015	Landings increase of no more than 20%		< 262	4129	453	453	85
2016	Precautionary approach (no more than 20% increase of recent advised landings)		≤ 314	5214	405	405	145

Year	ICES advice*	Catches corresponding to advice	Landings corresponding to advice	Agreed TAC Division 5.b (EC) and subareas 6, 12, and 14	Official landings Division 6.b	ICES landings	ICES discards**
2017	Precautionary approach	≤ 379	≤ 342	5682	586	586	233
2018	Precautionary approach	≤ 443	-	5432	762	764	203
2019	Precautionary approach	≤ 419	-	5782	791	757	34
2020	Precautionary approach	≤ 473	-	5901	866^	861	59
2021	Precautionary approach	≤ 512	-	5225	577^	566	65
2022	MSY approach	≤ 994	-	5581			
2023	MSY approach	≤ 1022					

* Prior to 2011, advice was given for megrim in divisions 4.a, 6.a, and 6.b combined.

** Discard data are only available from 2005 onwards.

^ Preliminary.

History of the catch and landings

Table 7 Megrim in Division 6.b. Catch distribution by fleet in 2021 as estimated by ICES.

Megrim in Division 6.b: Catch distribution by fleet in 2021 as estimated by ICES			
Catch	Landings		Discards
631 tonnes	Otter trawls 85%	Other gears 15%	Otter trawls 100%
	566 tonnes		65 tonnes

Table 8 Megrim in Division 6.b. History of catch and landings; official landings presented by country and ICES estimated catch. All weights are in tonnes.

Year	France	Ireland	Spain	UK (England, Wales, & Northern Ireland)	UK (England & Wales)	UK (Scotland)	UK	Official landings	ICES catch
1990	-	196	363	19	-	226	-	804	-
1991	-	240	587	14	-	204	-	1045	-
1992	-	139	683	53	-	198	-	1073	-
1993	-	128	594	56	-	147	-	925	-
1994	-	176	574	38	-	258	-	1046	-
1995	-	117	520	27	-	152	-	816	-
1996	-	124	515	92	-	112	-	843	-
1997	-	141	628	76	-	164	-	1009	-
1998	-	218	549	116	-	208	-	1091	-
1999	-	127	404	57	-	278	-	866	-
2000	4	167	427	57	-	309	-	964	-
2001	< 0.5	176	370	42	-	236	-	824	-
2002	< 0.5	87	120	41	-	207	-	455	-
2003	-	83	93	74	-	382	-	632	-
2004	-	43	71	42	-	372	-	528	-
2005	-	68	88	19	-	207	-	382	469
2006	-	95	59	-	-	-	190	345	419
2007	-	87	19	-	-	-	188	294	128
2008	-	68	84	-	-	-	142	294	353
2009	-	48	46	-	-	-	165	259	270
2010	-	47	41	-	-	-	93	180	165
2011	-	72	28	-	-	-	69	169	162
2012	-	120	61	-	-	-	89	270	245
2013	-	181	-	-	-	-	58	240	293
2014	-	230	73	-	-	-	95	398	358
2015	-	256	190	-	-	-	130	576	538
2016	-	272	69	-	-	-	116	457	550
2017	-	358	215	-	-	-	180	753	819
2018	-	438	61	-	-	-	263	763	967
2019	25	76 †	94	-	-	-	229	425 †	791
2020*	41	467	112	-	-	-	246	866	920

Year	France	Ireland	Spain	UK (England, Wales, & Northern Ireland)	UK (England & Wales)	UK (Scotland)	UK	Official landings	ICES catch
2021*	1	293	71	-	-	-	212	577	631

* Landing values are preliminary.

† Incomplete/missing as a result of part of the data being unavailable under data confidentiality clauses.

Summary of the assessment

Table 9 Megrim in Division 6.b. Assessment summary. ICES estimated landings and discards. Discard data are only available since 2005; values prior to that are assumed to be 20% of landings based on the observed ratio from 2017 to 2020. High and low refers to 95% confidence intervals. All weights in tonnes.

Year	Relative biomass			Landings	Discards	Relative fishing pressure		
	Relative B	High	Low			Relative F	High	Low
1991	1.19	2.68	0.52	1045	209	1.25	2.30	0.68
1992	1.10	2.31	0.52	1073	215	1.33	2.24	0.78
1993	1.02	2.03	0.51	925	185	1.33	2.15	0.82
1994	0.96	1.83	0.51	1046	209	1.41	2.21	0.91
1995	0.89	1.64	0.49	816	163	1.41	2.14	0.93
1996	0.86	1.53	0.48	843	169	1.31	1.98	0.87
1997	0.83	1.42	0.48	1009	202	1.54	2.24	1.05
1998	0.75	1.25	0.46	1091	218	1.94	2.76	1.37
1999	0.66	1.05	0.41	866	173	2.01	2.82	1.44
2000	0.58	0.91	0.37	964	193	2.16	3.01	1.55
2001	0.49	0.74	0.33	824	165	2.56	3.53	1.86
2002	0.41	0.60	0.28	455	91	1.93	2.76	1.35
2003	0.40	0.58	0.28	632	126	1.82	2.69	1.24
2004	0.37	0.54	0.26	528	106	2.18	3.32	1.43
2005	0.34	0.52	0.23	382	87	1.79	3.06	1.04
2006	0.35	0.57	0.21	344	75	1.43	2.73	0.75
2007	0.37	0.68	0.20	106	22	1.17	2.51	0.55
2008	0.42	0.83	0.21	294	59	0.98	2.33	0.42
2009	0.47	1.01	0.22	226	44	0.76	1.92	0.30
2010	0.55	1.20	0.25	139	26	0.43	1.16	0.16
2011	0.66	1.43	0.30	155	7	0.28	0.77	0.10
2012	0.80	1.70	0.38	224	21	0.29	0.74	0.11
2013	0.95	1.95	0.46	278	15	0.33	0.81	0.13
2014	1.08	2.11	0.55	343	15	0.34	0.84	0.14
2015	1.19	2.23	0.64	453	85	0.43	0.97	0.19
2016	1.27	2.26	0.71	405	145	0.49	1.09	0.22
2017	1.32	2.26	0.78	586	233	0.58	1.27	0.27
2018	1.34	2.24	0.80	764	203	0.78	1.64	0.37
2019	1.31	2.16	0.80	757	34	0.76	1.64	0.35
2020	1.30	2.12	0.80	861	59	0.76	1.63	0.35
2021	1.28	2.06	0.80	566	65	0.67	1.44	0.31
2022	1.30	2.04	0.83					

Sources and references

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[Download the stock assessment data and figures.](#)

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