

Roughhead grenadier (*Macrourus berglax*) in the Northeast Atlantic

ICES advice on fishing opportunities

ICES advises that when the precautionary approach is applied, there should be no directed fisheries for roughhead grenadier, and bycatch should be minimized for each of the years 2021 to 2025.

Note: This advice sheet is abbreviated due to the Covid-19 disruption. The previous advice issued for 2016 to 2020 is attached as Annex 1.

Stock development over time

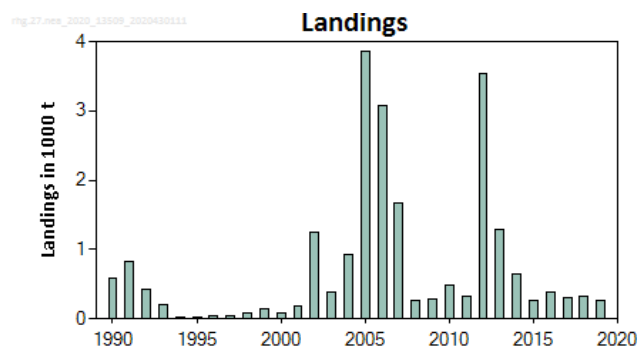


Figure 1 Roughhead grenadier in the Northeast Atlantic. Reported landings in thousand tonnes. Some of the reported landings data are considered to be species misreporting.

Stock and exploitation status

Table 1 Roughhead grenadier in the Northeast Atlantic. 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	$MSY B_{trigger}$?	?	?	Unknown
Precautionary approach	F_{pa}, F_{lim}	?	?	?	Unknown	B_{pa}, B_{lim}	?	?	?	Unknown
Management plan	F_{MGT}	—	—	—	Not applicable	B_{MGT}	—	—	—	Not applicable
Qualitative evaluation	-	?	?	?	Unknown	-	?	?	?	Unknown

Catch scenarios

There is very limited data available for this species, and some of the reported landings data are considered to be species misreporting. Therefore, it is currently not possible to provide quantified advice on fishing opportunities for roughhead grenadier. Following the precautionary approach and given the sensitivity of the species to exploitation, ICES advises no directed fisheries.

Issues relevant for the advice

In subareas 4, 12, and 14, this species is classified as Category 2 in the NEAFC categorization of deep-sea species/stocks, which implies that NEAFC requires measures stipulating that directed fisheries are not authorized and that bycatches should be minimized (NEAFC, 2016).

In other areas, this species is classified as Category 4 in the NEAFC categorization of deep-sea species/stocks, which implies that fisheries are primarily restricted to coastal state exclusive economic zones (EEZs). Therefore, management measures are not taken by NEAFC unless complementary to coastal state conservation and management measures (NEAFC, 2016).

History of the advice, catch, and management

Table 2 Roughhead grenadier in the Northeast Atlantic. History of ICES advice and ICES landings. Weights are in tonnes.

Year	ICES advice	Predicted catch corresp. to advice	ICES landings
2016	No directed fisheries for roughhead grenadier, and bycatch should be counted against the TAC for roundnose grenadier to minimize the potential for species misreporting	-	377
2017	2016 advice valid for 5 years	-	294
2018	2016 advice valid for 5 years	-	330
2019	2016 advice valid for 5 years	-	259
2020	2016 advice valid for 5 years	-	
2021	Precautionary approach, no directed fisheries, and bycatch should be minimized	-	
2022	Precautionary approach, no directed fisheries, and bycatch should be minimized (same as for 2021)	-	
2023	Precautionary approach, no directed fisheries, and bycatch should be minimized (same as for 2021)	-	
2024	Precautionary approach, no directed fisheries, and bycatch should be minimized (same as for 2021)	-	
2025	Precautionary approach, no directed fisheries, and bycatch should be minimized (same as for 2021)	-	

Table 3 Roughhead grenadier in the Northeast Atlantic. Landings inside and outside the NEAFC Regulatory Area (RA), as estimated by ICES. Landings are in tonnes.

Year	Inside the NEAFC RA	Outside the NEAFC RA	Total landings	Proportion inside the NEAFC RA (%)
2016	4	373	377	1.06
2017	0	294	294	0
2018	0	330	330	0
2019	0	259	259	0

Summary of the assessment

There is no assessment for this species in this area.

Sources and references

ICES. 2020. Working Group on the Biology and Assessment of Deep-sea Fisheries Resources (WGDEEP). ICES Scientific Reports, 2:38. <http://doi.org/10.17895/ices.pub.6015>.

NEAFC. 2016. The NEAFC approach to conservation and management of deep-sea species and categorization of deep-sea species/stocks. Adopted at the 35th Annual Meeting, November 2016. <https://www.neafc.org/basictexts>.

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9.3.34 Roughhead grenadier (*Macrourus berglax*) in the Northeast Atlantic

ICES stock advice

ICES advises that for the years 2016 to 2020 there should be no directed fisheries for roughhead grenadier and bycatch should be counted against the TAC for roundnose grenadier to minimise the potential for species misreporting.

Stock development over time

Roughhead grenadier is reported as a bycatch, with records dating back to 1990. Landings are reported in most ICES divisions and are traditionally very low, with occasional large landings (above 1000 t) being reported in subareas VI, XII, and XIV since 2002.

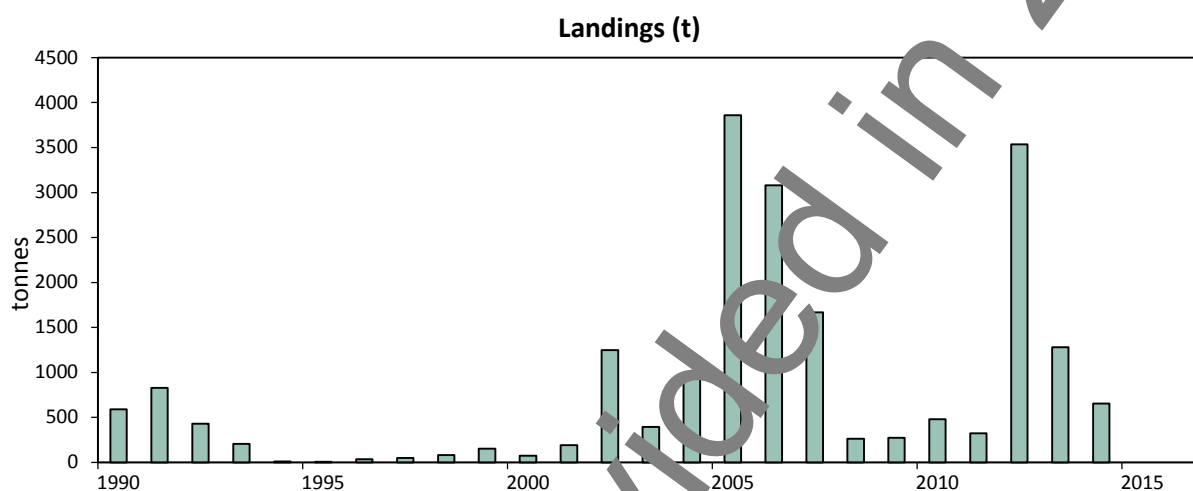


Figure 9.3.34.1 Roughhead grenadier in the Northeast Atlantic. Reported landings in tonnes.

Stock and exploitation status

Table 9.3.34.1 Roughhead grenadier in the Northeast Atlantic. 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}	?	?	?	MSY	?	?	?	Undefined
Precautionary approach	F_{pa}, F_{lim}	?	?	?	B_{pa}, B_{lim}	?	?	?	Undefined
Management Plan	F_{MGT}	-	-	-	SSB_{MGT}	-	-	-	Not applicable
Qualitative evaluation	-	?	?	?	-	?	?	?	Undefined

Catch options

ICES gave the following advice in 2014: "Given the uncertainty in the species composition of the reported commercial catches it is currently not possible to provide advice on a fishery for roughhead grenadier. The fishery data since 2011 is insufficient to provide catch advice for this species. If managers wish to explore the possibility of managing this fishery there is a need for more comprehensive catch and effort data, ideally through an extended observer programme and confirmation of species landings in the future.

There are considerable differences, of more than an order of magnitude, between the relative proportions of roundnose and roughhead grenadier reported in the official landings, and the observed catches and scientific surveys in the areas where the fishery for roughhead grenadier currently occurs. However, the observed catches and scientific surveys are spatially and temporally limited.

The available survey and observer data both provide inconclusive information, with limited spatial and temporal coverage. These data show that all three species (roundnose, roughhead, and roughsnout grenadier) are present in Divisions VIb and XIIIb, whereas only roundnose and roughsnout grenadier are recorded in observer data from Division XIVb. On average, observed commercial catches of roundnose grenadier in Subareas VI and XII are two orders of magnitude larger than those of roughsnout grenadier, and three orders of magnitude larger than those of roughhead grenadier."

Furthermore, ICES considers that the historical catches of roughhead grenadier have been low, e.g. around 120 tonnes per year for the period 1992–2001. Limited on-board observations show that the percentage of roughhead grenadier has been less than 1% of the reported catches of roundnose grenadier. This corresponds to annual catches of around 70 tonnes of roughhead grenadier in recent years. Based on these considerations, ICES advises that there should be no directed fisheries for roughhead grenadier and that bycatch should be counted against the TAC for roundnose grenadier to minimize the potential for species misreporting.

This advice is valid for a period of up to five years. However, if managers wish to explore the possibility of managing this as a separate fishery there is a need for more comprehensive catch and effort data, ideally through an extended observer programme and confirmation of species landings over a period of five years.

Basis of the advice

Table 9.3.34.2 Roughhead grenadier (*Macrourus berglax*) in the Northeast Atlantic. The basis of the advice.

Advice basis	Precautionary approach
Management plan	There is no management plan for roughhead grenadier in this area.

Quality of the assessment

There is very limited data available for this species and some of the reported landings data are considered to be species misreporting.

Issues relevant for the advice

See the catch options section.

Reference points

No reference points are defined for this stock.

Basis of the assessment

Table 9.3.34.3 Roughhead grenadier in the Northeast Atlantic. The basis of the assessment.

ICES stock data category	6.2.0 (ICES, 2015).
Assessment type	No assessment.
Input data	Total international landings and observer data.
Discards and bycatch	Average discard ratio of 55% in the period 1996–2014 (from observer programme).
Indicators	None.
Other information	None.
Working group	Working Group on the Biology and Assessment of Deep-Sea Fishery Resources (WGDEER)

Information from stakeholders

No information is available for this stock.

History of advice, catch and management

Table 9.3.23.4 Roughhead grenadier in the Northeast Atlantic. History of ICES advice, the agreed TAC, and ICES estimates of landings (tonnes).

Year	ICES advice*	Predicted catch corresp. to advice	ICES landings
2016	No directed fishery and bycatch should not exceed 123 t (precautionary approach based on reference period 1992–2001)	123 t	-
2017	2016 advice valid for 5 years	-	-
2018	2016 advice valid for 5 years	-	-
2019	2016 advice valid for 5 years	-	-
2020	2016 advice valid for 5 years	-	-

* This is the first year that ICES gives advice on this species.

History of catch and landings

Table 9.3.34.5 Roughhead grenadier in the Northeast Atlantic. Catch distribution by fleet in 2014 as estimated by ICES.

Total catch	Commercial landings	Commercial discards
1.0 kt	100% trawl	0.3 kt
	0.7 kt	

Table 9.3.34.6 Roughhead grenadier in the Northeast Atlantic. History of official commercial landings in tonnes.

Year	Subareas I and II	Subareas III and IV	Division Va	Division Vb	Subareas VI and VII	Subarea VIII	Subarea XII	Subarea XV	TOTAL
1990	589								589
1991	829								829
1992	424	7							431
1993	136				18			52	206
1994	0				5			5	10
1995	1				4			2	7
1996	3	4	15		13				35
1997	21	5	4	6	12				48
1998	55	1	1	9	10			6	82
1999	0			99	38			14	151
2000	48	4	2	1	11		7		73
2001	94	10	1	4	45		10	26	190
2002	29	3	4	3	12	1	1 143	53	1 248
2003	77	2	33	12	11		225	33	393
2004	79	1	3	10	33		752	55	933
2005	77	39	5	6	1 488		2 205	40	3 860
2006	78		7	10	2 003	3	976	4	3 081
2007	49		2	5	1 380		420	15	1 669
2008	55			3	128		73	3	262
2009	53		5		2 000		7	4	274
2010	45		22	1	11		1	422	480
2011	29	2	21		4		2	264	322
2012	54	1	16		195		526	2740	3 535
2013	36	1	16	2	181		210	835	1 281
2014*					42		164	448	654

* Preliminary.

Summary of the assessment

There is no assessment, only landings data are used for the advice. See official landings data.

Sources and references

ICES. 2014. EU and NEAFC request for clarification regarding assessment of occurrence and catch levels of grenadier species in areas where roundnose grenadier is caught. *In* Report of the ICES Advisory Committee, 2014. ICES Advice 2014, Book 9, Section 9.2.3.1.

ICES. 2015. Advice basis. *In* Report of the ICES Advisory Committee, 2015. ICES Advice 2015, Book 1. In preparation.