

9.3.28 Roundnose grenadier (*Coryphaenoides rupestris*) in Division 3.a (Skagerrak and Kattegat)

ICES stock advice

ICES advises that when the precautionary approach is applied, there should be zero catch in each of the years 2017 and 2018.

Stock development over time

Landings varied between 1000 and 2000 tonnes in the 1990s. Landings after 2006 are very small.

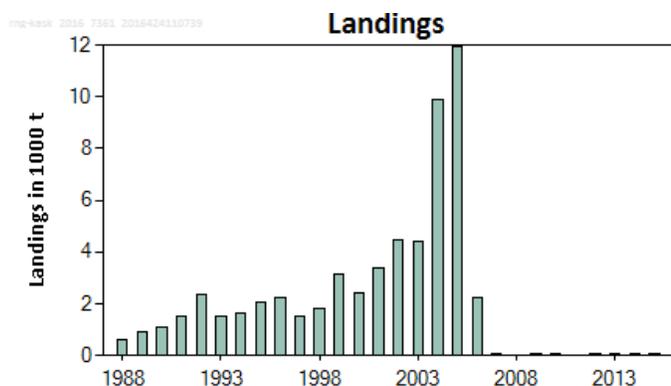


Figure 9.3.28.1 Roundnose grenadier in Division 3.a. ICES landings in thousand tonnes.

Stock and exploitation status

Table 9.3.28.1 Roundnose grenadier in Division 3.a. State of the stock and fishery relative to reference points.

	Fishing pressure			Stock size						
		2013	2014	2015	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	-	?	?	?	Unknown	-	?	?	?	Unknown

Catch options

For this stock, current advised catches are zero. ICES advises that when the precautionary approach is applied, catches should not increase (ICES, 2012). This corresponds to zero catch in 2017 and 2018.

Table 9.3.28.2 Roundnose grenadier in Division 3.a. Catch option table.

Recent advised catches			0 tonnes
Discard rate			Unknown
Precautionary buffer	Not applied		-
Landings advice*			0 tonnes

*Recent advice catches.

Basis of the advice

Table 9.3.28.3 Roundnose grenadier in Division 3.a. The basis of the advice.

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

Quality of the assessment

There is no information available to conduct an assessment.

Issues relevant for the advice

Landings varied between 1000 and 2000 tonnes in the 1990s. Large increases in landings in the early 2000s are considered to have been unsustainable, based on the biology of the species and the small geographical extent of the fishery (in one ICES rectangle alone). The increase appears to have been supported by a single exceptional recruitment event in the early 1990s. Landings after 2006 are very small because the directed fishery was closed and zero TAC was introduced in the Norwegian EEZ. Catches in recent years have been mostly bycatch in the shrimp fishery and have declined to low levels, probably partly driven by the introduction of sorting grids in the shrimp fishery.

Reported landings are very low. Denmark has reported discards (~1 tonne), but the total amount of discards for the stock is unknown.

Abundance indices, size distributions, and recruitment data are available from the 1984–2016 annual Norwegian shrimp survey. The stock size indicator has been very low since 2010 (Figure 9.3.28.2). This survey is not used as quantitative indicator of the stock size but as supporting information.

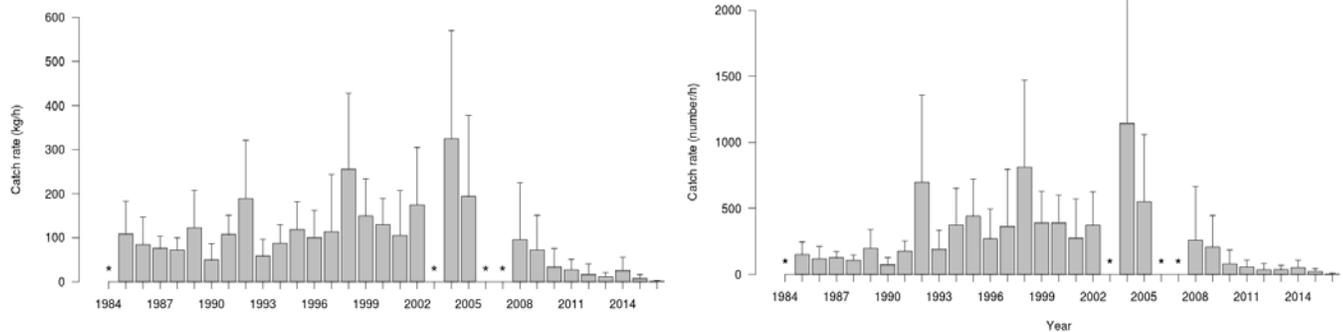


Figure 9.3.28.2 Roundnose grenadier in Division 3.a. Survey catch rates in biomass (kg h^{-1}) and abundance (no. h^{-1}) of roundnose grenadier 1984–2016. The survey sampled the distribution area and depth range (mean number of stations > 300 m is 23) of roundnose grenadier in this area (Bergstad *et al.*, 2014). In each of the years 1984, 2003, 2006, and 2007 only a single or no trawl draws were made deeper than 400 m; thus, the primary grenadier habitat was not sampled for those years. Lines indicate estimates of $2 \times$ standard deviation.

Reference points

No reference points have been defined for roundnose grenadier in Division 3.a.

Basis of the assessment

Table 9.3.28.4 Roundnose grenadier in Division 3.a .The basis of the assessment.

ICES stock data category	6 (ICES, 2016a)
Assessment type	No assessment (ICES, 2016b)
Input data	Landings data
Discards and bycatch	Discards are unknown.
Indicators	None
Other information	Trends from the Norwegian shrimp survey.
Working group	Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP)

Information from stakeholders

There is no available information.

History of the advice, catch, and management

Table 9.3.28.5 Roundnose grenadier in Division 3.a. History of ICES advice, the agreed TAC, and official landings. Weights are in thousand tonnes.

Year	ICES advice	Predicted catch corresp. to advice	EU TAC Subarea 3	Norway TAC Subarea 3	ICES landings Division 3.a
2003	Significant reduction in effort	-	1.870	no TAC	4.3
2004	Biennial	-		no TAC	9.9
2005	Fishery not allowed to expand, unless proven to be sustainable	-	1.590	no TAC	11.9
2006	Biennial	-	1.590	2.700	2.3
2007	50% reduction of effort compared to the level before the fishery expanded (1991–1999)	1	0.850**	no TAC	0.001
2008	Biennial	1	0.850	no TAC	+
2009	Constrain catches to the catches level before the expansion of the fishery (1988–1991)	1	0.850	no TAC	0.002
2010	Biennial	1	0.850*	no TAC	0.001
2011	Same advice as previously	1	0.850	no TAC	0
2012	No new advice, same as 2011		0.850	no TAC	
2013	Catch should not increase unless there is evidence that this will be sustainable	< 0.001			
2014	No new advice, same as 2013	< 0.001			
2015	No targeted fishery and minimize bycatch	0	0.435	no TAC	0.001*
2016	No new advice, same as 2015	0	0.348	0	
2017	Precautionary approach (same value as advised catches for 2016)	0			
2018	Precautionary approach (same value as advised catches for 2016)	0			

* Bycatch only.

** Directed fisheries prohibited since mid-2006 through an agreement between EU and Norway.

History of catch and landings

Table 9.3.28.6 Roundnose grenadier in Division 3.a. Catch distribution by fleet in 2015 as officially submitted to ICES. Weights in tonnes.

Total catch (2015)	Commercial landings	Commercial discards
unknown	Bycatch shrimp trawl fisheries	unknown
	1	

Table 9.3.28.7 Roundnose grenadier in Division 3.a. History of official landings presented by each country participating in the fishery. Weights are in tonnes.

Year	Denmark	Norway	Sweden	Total
1988	612		5	617
1989	884		1	885
1990	785	280	2	1067
1991	1214	304	10	1528
1992	1362	211	755	2328
1993	1455	55		1510
1994	1591		42	1633
1995	2080		1	2081
1996	2213			2213
1997	1356	124	42	1522
1998	1490	329		1819
1999	3113	13		3126
2000	2400	4		2404
2001	3067	35	258	3360
2002	4196	24	262	4482
2003	4302		82	4384
2004	9874	16		9890
2005	11 922		1	11923
2006	2261	4		2265
2007	+	1		1
2008	+	+		0
2009	2	+	+	2
2010	1	0		1
2011		0		0
2012	1	0		1
2013	1			1
2014	0,6	0	0,4	1
2015	0,6	+	+	1

+ indicates landings less than 100 kg.

Summary of the assessment

There is no assessment for this stock.

Sources and references

ICES. 2012. ICES Implementation of Advice for Data-limited Stocks in 2012 in its 2012 Advice. ICES CM 2012/ACOM 68. 42 pp.

Bergstad, O. A., Hansen, H. Ø., and Jørgensen, T. 2014. Intermittent recruitment and exploitation pulse underlying temporal variability in a demersal deep-water fish population. ICES Journal of Marine Science, 71: 2088–2100.

ICES. 2016a. General context of ICES advice. *In* Report of the ICES Advisory Committee, 2016. ICES Advice 2016, Book 1, Section 1.2.

ICES. 2016b. Report of the Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP), 20–27 April 2016, ICES Headquarters, Copenhagen. ICES CM 2016/ACOM:17.