

ECOREGION **Widely distributed and migratory stocks**
STOCK **Roundnose grenadier (*Coryphaenoides rupestris*) on the Mid-Atlantic Ridge (Divisions Xb and XIIc, and Subdivisions Va₁, XIIa₁, and XIVb₁)**

Advice for 2013 and 2014

Based on the ICES approach for data-limited stocks, ICES advises that catches should be no more than 1350 t.

This is the first year ICES is providing quantitative advice for data-limited stocks (see Quality considerations).

Stock status

F (Fishing Mortality)	
Qualitative evaluation	2009–2011
	Insufficient information
SSB (Spawning-Stock Biomass)	
Qualitative evaluation	2009–2011
	Insufficient information

Catches

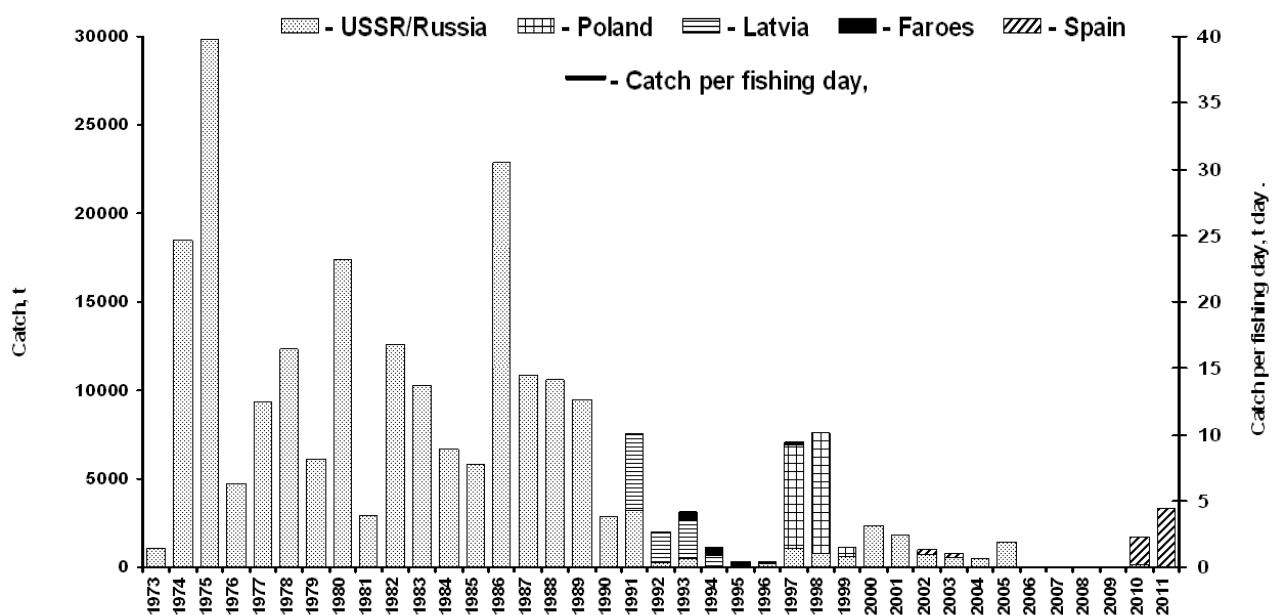


Figure 9.4.15.3.1 Roundnose grenadier in the Mid-Atlantic Ridge. International catch (in tonnes) and Soviet/Russian cpue (1974–1993, 1996–2005). Combined catch of *Coryphaenoides rupestris* and *Macrourus berglax* is shown for 2010.

Substantial catches were recorded in the 1970s and 1980s. Since then catches have been variable and at a considerably lower level.

Management plans

No specific management objectives are known to ICES.

Biology

Age analyses suggest that roundnose grenadier may have a longevity of around 70 years and a slow growth. This species shows low productivity, which can only sustain low rates of exploitation. In addition, roundnose grenadier on the Mid-Atlantic Ridge exhibit spatial distributions associated with seamounts and aggregating behaviour. These grenadiers are therefore easily overexploited.

The fisheries

The greatest annual catch (almost 30 000 t) in the area was taken by the Soviet Union in 1975 and in subsequent years the Soviet catch varied from 2800 to 22 800 t (Figure 9.4.15.3.1). In the last 15 years a sporadic fishery has taken place by vessels from Russia (annual catch estimated at 200–3200 t), Poland (500–6700 t), Latvia (700–4300 t), Spain (1600–3400 t), and Lithuania (data on catch are not available). Grenadier has also been taken as a bycatch in the Faroese orange roughy fishery and the Spanish blue ling fishery.

The roundnose grenadier fisheries in Divisions Xb and XIIc, and Subdivisions Va₁, XIIa₁, and XIVb₁ are managed by a TAC for European Community vessels. In international waters NEAFC regulations control efforts in the fisheries for deep-water species.

Catch distribution	Total catch (2011) was 3366 kt, where 100% was taken by mid-water trawl). No data for discards, industrial bycatch, or unaccounted removals.
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Effects of the fisheries on the ecosystem

Deep-water bottom trawls impact the ocean floor, causing potential damage to deep-water coral communities. As this bottom fishery at the Mid-Atlantic Ridge is part of a mixed fisheries, effort on roundnose grenadier also impacts other commercial and non-commercial deep-water species. The several NEAFC closures have protected vulnerable ecosystems in some areas of the Mid-Atlantic Ridge in recent years. Recent fisheries have used mid-water trawls, but earlier fisheries used bottom trawls.

Quality considerations

There are many gaps in fishery and biological data for the roundnose grenadier on the Mid-Atlantic Ridge. To improve the advice for the stock, regular data collection by observers on board commercial vessels needs to be established. The required information must contain data on gear type, length-age composition, maturation and feeding of the species, spatial distribution of its aggregations, as well as size and composition of catches, efforts, cpue, and discards. This information should be presented to ICES annually.

The advice is based on a precautionary reduction of catches because of missing or non-representative data. The methods applied to derive quantitative advice for data-limited stocks are expected to evolve as they are further developed and investigated.

Scientific basis

Assessment type	Catch-based assessment.
Input data	Catch statistics.
Discards and bycatch	Not included in the assessment.
Indicators	None.
Other information	None.
Working group report	WGDEEP

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Reference points

No reference points are proposed for this stock.

Outlook for 2013 and 2014

No reliable assessment can be presented for this assessment unit and fishing possibilities cannot be projected.

ICES approach to data-limited stocks

For data-limited stocks without information on abundance or exploitation ICES considers that a precautionary reduction of catches should be implemented.

For this stock, ICES advises that catches should decrease by 20% compared to the average catch of the last three years, corresponding to catches of no more than 1350 t in 2013 and subsequent years.

Additional considerations

Roundnose grenadier aggregations may have occurred on 70 seamount peaks between 46°N and 62°N, but only 30 of them were commercially important. The fishery is mainly conducted using pelagic trawls although on some seamounts it is possible to use bottom gear.

The most recent trawl acoustic survey was carried out by Russia in 2010 in the area between 44°N and 50°N. According to the results of this survey the biomass of the pelagic component of the grenadier on 13 seamounts alone amounted to about 59 400 t. The biomass values in 2003 were comparatively higher at most seamounts. The average biomass per seamount increased from 3900 t in 2003 to 4600 t in 2010. It was concluded that the distribution of grenadier aggregations on the Mid-Atlantic Ridge have changed considerably compared to the 1970s–1980s, but the stock biomass has been stable for the past several years.

Fisheries on the Mid-Atlantic Ridge have been constrained in recent years by the high cost of fuel and low market prices.

Comparison with previous assessment and advice

The basis for the assessment has not changed. The basis for the advice this year is the ICES approach to data-limited stocks.

Source

ICES. 2012. Report of the Working Group on the Biology and Assessment of Deep-Sea Fisheries Resources (WGDEEP), 29 March–5 April 2012, ICES Headquarters, Copenhagen. ICES CM 2012/ACOM:17.

Table 9.4.15.3.1 Roundnose grenadier on the Mid-Atlantic Ridge (Divisions Xb and XIIc, and Subdivisions Va₁, XIIa₁, and XIVb₁). ICES advice, management, and catches.

Year	ICES Advice	Predicted catch corresp. to advice	TAC EU Subareas VIII, IX, X, XII and XIV	ICES catch Xb, XIIc, Va ₁ , XIIa ₁ , XIVb ₁
2003	Fishery not allowed to expand, unless proven to be sustainable	-	-	0.782
2004	Biennial	-	-	0.465
2005	Fishery not allowed to expand, unless proven to be sustainable	-	7.19	1.399
2006	Biennial	-	7.19	0.001
2007	Fishery not allowed to expand, unless proven to be sustainable	-	6.114	0.002
2008	Biennial	-	6.114	0.013
2009	Fishery not allowed to expand, unless proven to be sustainable	-	5.197	0.005
2010	Biennial	-	5.197	1.691*
2011	Fishery should not be allowed to expand and a reduction in catches should be considered	-	4.573	3.366
2012	No new advice, same as 2011		3.979	
2013	20% reduction in catches (last 3 years' average)	< 1.35		
2014	No new advice, same as 2013	< 1.35		

Weights in thousand tonnes.

* Combined catch of roundnose and roughhead grenadiers.

Table 9.4.15.3.2 Roundnose grenadier in the Mid-Atlantic Ridge (Divisions Xb and XIIc, and Subdivisions Va₁, XIIa₁, and XIVb₁). ICES catches (tonnes) by area and country on the Mid-Atlantic Ridge.

Year	Va ₁		Xb			XIIa ₁ and XIIc						XIVb ₁			TOTAL
	USSR/ Russia	Total	USSR/ Russia	Faroes ¹	Total	USSR/ Russia	Poland ¹	Latvia ¹	Faroes ¹	Spain ¹	Total	USSR/ Russia	Spain ¹	Total	
1980						17419					17419				17419
1981						2954					2954	153		153	3107
1982						12472					12472				12472
1983						10300					10300				10300
1984						6637					6637				6637
1985						5793					5793				5793
1986						22842					22842				22842
1987						10893					10893				10893
1988						10606					10606				10606
1989						9495					9495				9495
1990						2838					2838				2838
1991						3214		4296			7510				7510
1992						295		1684			1979				1979
1993				249	249	473		2176	263		2912				3161
1994								675	457		1132				1132
1995									359		359				359
1996				3	3	208			136		344				347
1997				1	1	705	5867		138		6710	3361		3361	10072
1998				1	1	812	6769		19		7600				7601
1999				3	3	576	546		29		1151				1154
2000						2325					2325	5		5	2330
2001						1714			2		1716	69		69	1785
2002						737					737	4	235	239	976
2003						510					510		272	272	782
2004				1	1	436			8		444	201		201	646
2005			799		799	600					600				1399
2006									1		1				1
2007									2		2				2
2008						13					13				13
2009						5					5				5
2010			73		73							1618**		1618**	1691**
2011												3366* (3317)		3366* (3317)	3366*

¹ Official ICES data.

* Preliminary.

** Combined roundnose and roughhead grenadiers.

Official national data are given in brackets.