

**ECOREGION**      **Barents Sea and Norwegian Sea**  
**STOCK**            **Golden redfish (*Sebastes marinus*) in Subareas I and II**

**Advice for 2012**

The most recent data (landings, surveys, and an exploratory assessment) do not change the perception of the stock. Therefore, the advice for this fishery in 2011 is the same as the advice given in 2007 for the 2008 fishery and re-iterated since then: *There should be no directed fishery on Sebastes marinus in Subareas I and II. Area closures should be maintained and bycatch limits should be as low as possible until a significant increase in the spawning-stock biomass (and a subsequent increase in the number of juveniles) has been verified.*

**The fisheries**

*Sebastes marinus* is fished both in a directed gillnet and longline fishery and as bycatch in trawl fisheries targeting cod and saithe. The directed fishery is closed in March–June and in September. Directed trawl fishery is not allowed. There are regulations on minimum size and on the percentage of allowed bycatch of *S. marinus* when fishing for other species.

<b>Catch by fleet</b>	Commercial landings (2010) = 7.7 kt, of which 43% are taken by trawl, 38% by gillnet, 17% by longline, and 2% by other gears.
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**Sources**

ICES. 2011. Report of the Arctic Fisheries Working Group, 28 April–4 May 2011. ICES CM 2011/ACOM:05.

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**Reference points**

No reference points are defined for this stock.

**Outlook for 2012**

No analytical assessment is presented for this stock. Therefore, fishing possibilities cannot be projected.

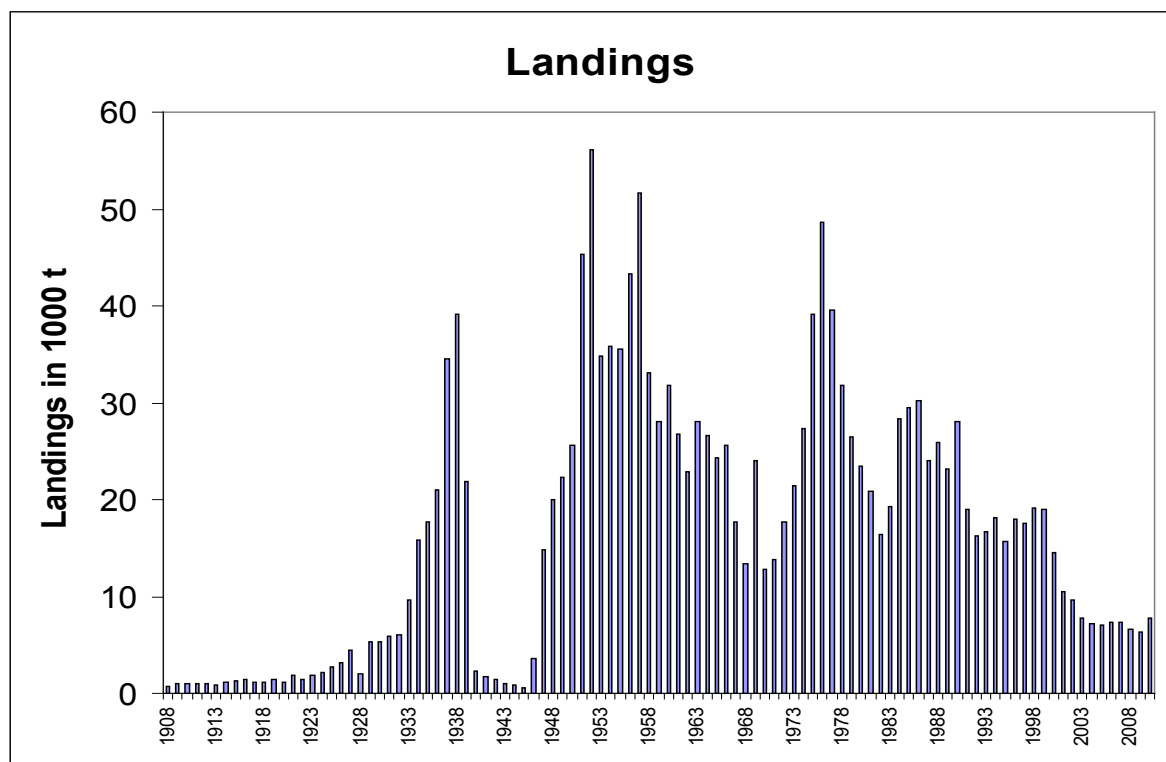
**PA approach**

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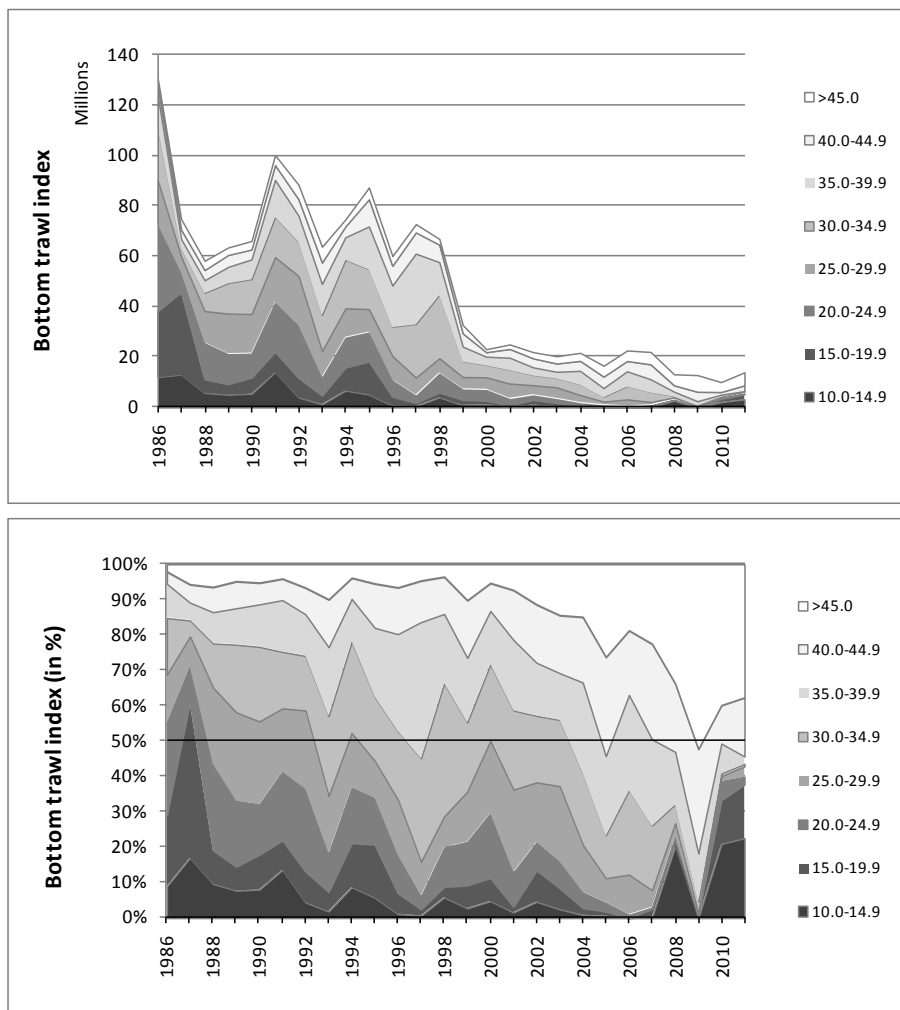
**Additional considerations**

*Experimental assessment*

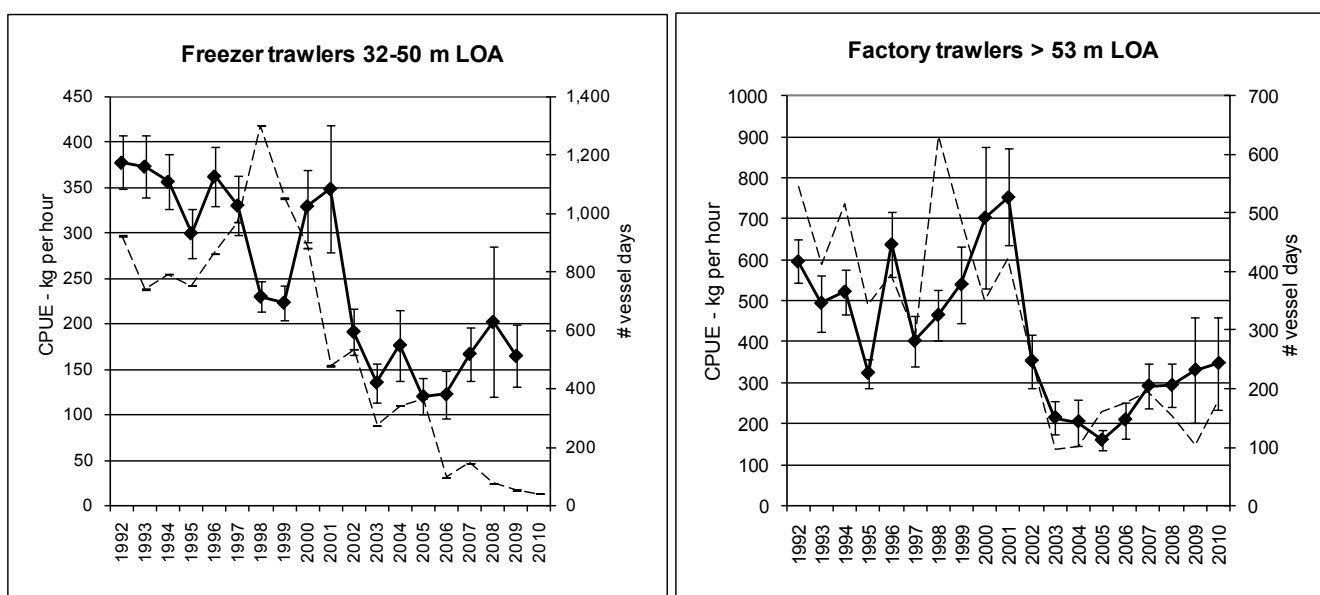
A benchmark assessment will be conducted early 2012. An experimental assessment model for *S. marinus* (Gadget) in Subareas I and II was run during the AFWG. In brief, the model is a single-species, forward simulation, age-length structured model, split into mature and immature components. There are two commercial fleets (a gillnet fleet and a combined trawl and other gears fleet), and two surveys. Growth and fishing selectivity are assumed constant over time, and recruitment is estimated on an annual basis (no SSB–recruit relationship). The modelled exploitation and stock status is shown in Figures 3.4.6.4 and 3.4.6.5.



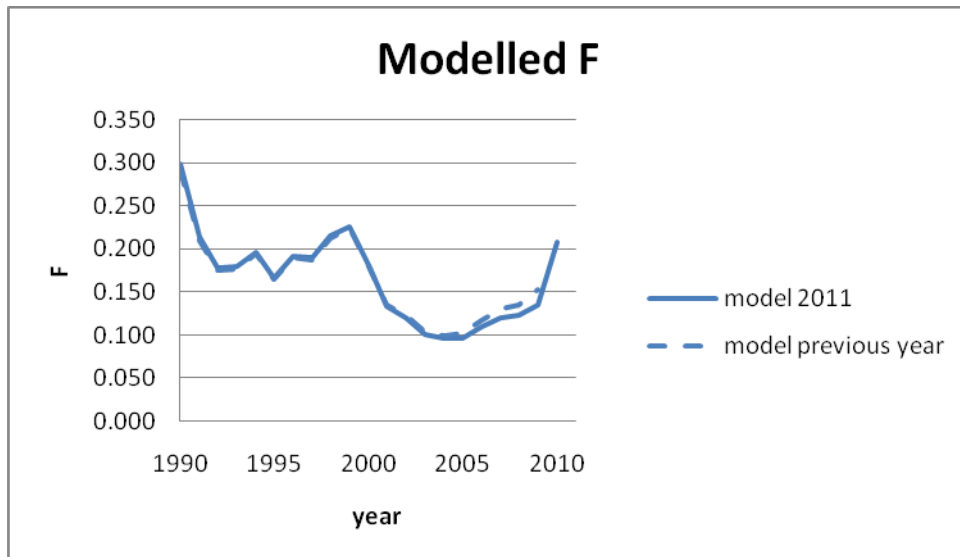
**Figure 3.4.6.1** Golden redfish (*Sebastes marinus*) in Subareas I and II. Total international landings ('000 t).



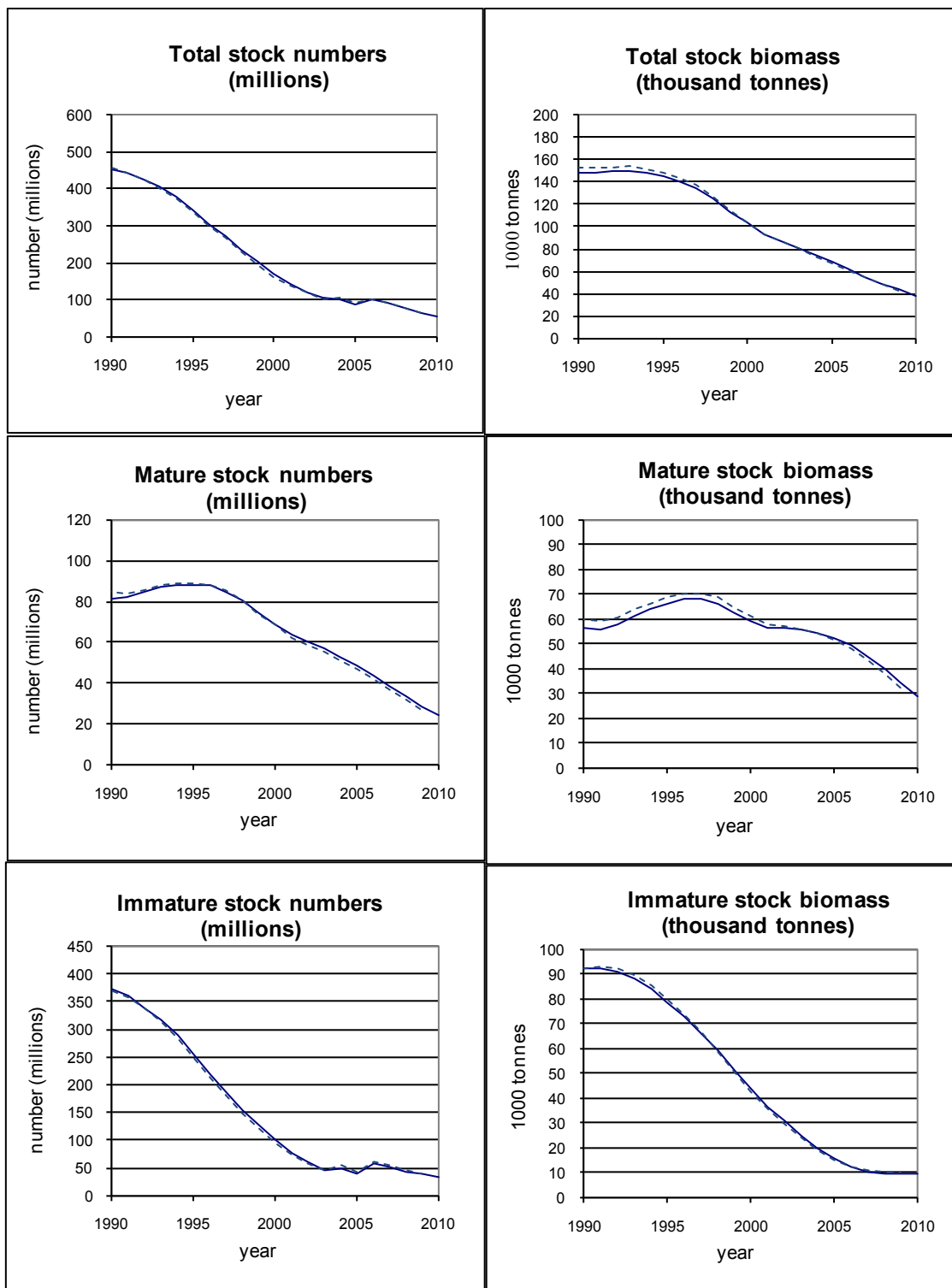
**Figure 3.4.6.2** Golden redfish (*Sebastes marinus*) in Subareas I and II. Abundance indices disaggregated by age for the Norwegian bottom trawl survey in the Barents Sea in winter 1986–2011.



**Figure 3.4.6.3** Golden redfish (*Sebastes marinus*) in Subareas I and II. Simple mean cpue with 2 standard errors from the Norwegian trawl fishery, and numbers of vessel days (dashed line) meeting the criterion of minimum 10% *S. marinus* in the catch per day. Data from the logbooks of freezer trawlers.



**Figure 3.4.6.4.** Golden redfish (*Sebastes marinus*) in Subareas I and II. Average fishing mortality of ages 12–19 as estimated by Gadget in 2011 (solid line) and in 2010 (dashed line).



**Figure 3.4.6.5** Golden redfish (*Sebastes marinus*) in Subareas I and II Output from the experimental Gadget model. Stock numbers (in thousands) and biomass (in tonnes) for the total stock (3+) (upper panels), and the fishable and mature stock (middle panels), and the immature stock (lower panels). Results from the previous year's assessment (dashed lines) and current results (solid lines).

**Table 3.4.6.1** Golden redfish (*Sebastes marinus*) in Subareas I and II. ICES advice, management, and landings.

Year	ICES Advice	Predicted catch corresp. to advice	Agreed TAC	Official landings <sup>1</sup>	ICES landings of <i>S. marinus</i>
1987	Precautionary TAC	-	-	35	24
1988	Reduction in F; TAC	15	-	41	26
1989	<i>Status quo</i> F; TAC	24	-	47	23
1990	<i>Status quo</i> F; TAC	23	-	63	28
1991	Precautionary TAC	24	-	68	19
1992	If required, precautionary TAC	25	-	32	16
1993	Precautionary TAC	12	12	30	17
1994	If required, precautionary TAC	-	-	31	18
1995	If required, precautionary TAC	-	-	26	16
1996	If required, precautionary TAC	-	-	26	18
1997	If required, precautionary TAC	-	-	26	18
1998	Management plan required as a prerequisite to continued fishing	-	-	33	19
1999	Management plan required as a prerequisite to continued fishing	-	-	30	19
2000	Management plan required as a prerequisite to continued fishing	-	-	25	14
2001	Management plan required as a prerequisite to continued fishing	-	-	29	11
2002	Management plan required as a prerequisite to continued fishing	-	-	17	10
2003	Management plan required as a prerequisite to continued fishing	-	-	10	8
2004	No directed trawl fishery and low bycatch limits	-	-	13	7
2005	More stringent protective measures	-	-	16	7
2006	More stringent protective measures	-	-	40	7
2007	More stringent protective measures	-	-	27	7
2008	No directed fishery and low bycatch limits	-	-	20	7
2009	No directed fishery and low bycatch limits	-	-	16	6
2010	No directed fishery and low bycatch limits	-	-	19	8
2011	Same advice as last year	-	-		
2012	Same advice as last year	-	-		

Weights in '000 t.

<sup>1</sup>Includes both *Sebastes mentella* and *S. marinus*.

**Table 3.4.6.2** Golden redfish *Sebastes marinus* in Subareas I and II. Nominal landings (t) by country.

Year	Faroe Islands	France	Germany <sup>2</sup>	Greenland	Iceland	Ireland	Netherlands
1989	3	796	412	-	-	-	-
1990	278	1,679	387	1	-	-	-
1991	152	706	981	-	-	-	-
1992	35	1,289	530	623	-	-	-
1993	139	871	650	14	-	-	-
1994	22	697	1,008	5	4	-	-
1995	27	732	517	5	1	1	1
1996	38	671	499	34	-	-	-
1997	3	974	457	23	-	5	-
1998	78	494	131	33	-	19	-
1999	35	35	228	47	14	7	-
2000	17	13	160	22	16	-	-
2001	37	30	238	17	-	1	-
2002	60	31	42	31	3	-	-
2003	109	8	122	36	4	-	89
2004	19	4	68	20	30	-	33
2005	47	10	72	36	8	-	48
2006	111	8	35	44	31	3	21
2007	146	15	67	84	68	13	20
2008	274	63	30	71	27	6	2
2009	70	1	58	81	66	-	1
2010 <sup>1</sup>	171	51	31	72	22	-	-

Year	Norway	Portugal	Russia <sup>3</sup>	Spain	UK (Eng. & Wales)	UK (Scotl) <sup>4</sup>	Total
1989	20,662	-	1,264	-	97	-	23,234
1990	23,917	-	1,549	-	261	-	28,072
1991	15,872	-	1,052	-	268	10	19,041
1992	12,700	5	758	2	241	2	16,185
1993	13,137	77	1,313	8	441	1	16,651
1994	14,955	90	1,199	4	135	1	18,120
1995	13,516	9	639	-	159	9	15,616
1996	15,622	55	716	81	229	98	18,043
1997	14,182	61	1,584	36	164	22	17,511
1998	16,540	6	1,632	51	118	53	19,155
1999	16,750	3	1,691	7	135	34	18,986
2000	13,032	16	1,112	-	-	73	14,461
2001	9,134	7	963	1	-	119	10,547
2002	8,561	34	832	3	-	46	9,643
2003	6,853	6	479	-	-	134	7,840
2004	6,233	5	722	3	-	69	7,206
2005	6,085	56	614	8	-	52	7,037
2006	6,305	69	713	9	-	39	7,388
2007	5,784	225	890	5	-	55	7,372
2008	5,202	72	749	4	-	85	6,585
2009	5,225 <sup>1</sup>	30	698	-	Poland	31	6,261
2010 <sup>1</sup>	6,515	28	806	4	1	44	7,744

<sup>1</sup>Preliminary figures.

<sup>2</sup>Includes former GDR prior to 1991.

<sup>3</sup>USSR prior to 1991.

<sup>4</sup>UK (E&W) + UK (Scot.).