

Saithe (*Pollachius virens*) in Division 5.b (Faroes grounds)

ICES advice on fishing opportunities

ICES advises that when the MSY approach is applied, catches in 2024 should be no more than 15 323 tonnes. ICES is not in a position to advise on the corresponding level of fishing effort.

ICES advice on conservation aspects

ICES has not identified any conservation aspects.

Stock development over time

Fishing pressure on the stock is below F_{MSY} , and spawning-stock size is above MSY $B_{trigger}$, B_{pa} , and B_{lim} .

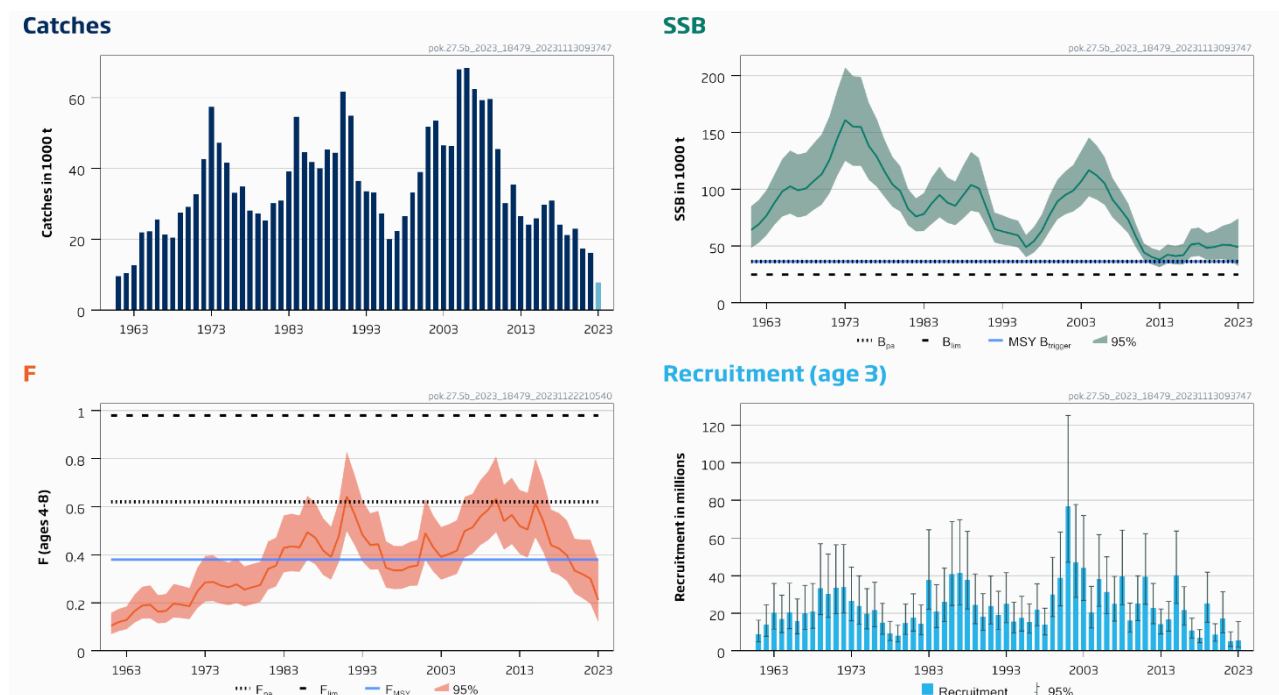


Figure 1 Saithe in Division 5.b (Faroes grounds). Summary of the stock assessment. Catches in 2023 are assumed and used in the assessment to produce an estimate of F in 2023

Conservation status

ICES is not aware of any information on stock/species-specific conservation status.

Catch scenarios

Table 1 Saithe in Division 5.b (Faroes grounds). Assumptions made for the interim year and in the forecast.

Variable	Value	Notes
$F_{ages\ 4-8}$ (2023)	0.22	Based on catch estimate of 9719 tonnes in 2023
SSB (2024)	52547	in tonnes
$R_{age\ 3}$ (2024 and 2025)	8601	Median of resampled estimates 2018–2022; in thousands
Landings (2023)	9719	Catch estimate for 2023 based on catch statistics to the end of September extrapolated to the entire year; in tonnes
Discards (2023)	0	Discarding is considered negligible; in tonnes

Table 2 Saithe in Division 5.b (Faroes grounds). Annual catch scenarios. Weights are in tonnes.

Basis	Catch (2024)	F_{4-8} (2024)	SSB (2025)	% SSB change*	% advice change**
ICES advice basis					
MSY approach: $F_{MSY} = 0.38$	15323	0.38	50089	-5.0	-14
Other scenarios					
$F = 0$	0	0	65073	24.0	-100
$F = F_{2023}$	9346	0.22	55606	6.0	-48
$F = F_{pa}$	22663	0.62	43224	-18.0	27
$F = F_{lim}$	31200	0.98	35701	-32.0	75

* SSB (2025) relative to SSB (2024) (52 547 tonnes).

** Advice value for 2024 relative to the advice value for 2023 as issued in 2022 (17 843 tonnes).

The catch advice for 2024 is lower compared to the advice for 2023 because of decreasing recruitment.

Basis of the advice

Table 3 Saithe in Division 5.b (Faroes grounds). The basis of the advice.

Advice basis	MSY approach
Management plan	A management plan (Anon., 2019) was implemented in 2021, but ICES has not been requested to evaluate it.

Quality of the assessment

The assessment in 2023 produces estimates of F , SSB and recruitment that are very similar to the previous assessment. The relationship between catches from January to September and total year catch gives a preliminary estimate of catch in 2023 that is well below the ICES advice

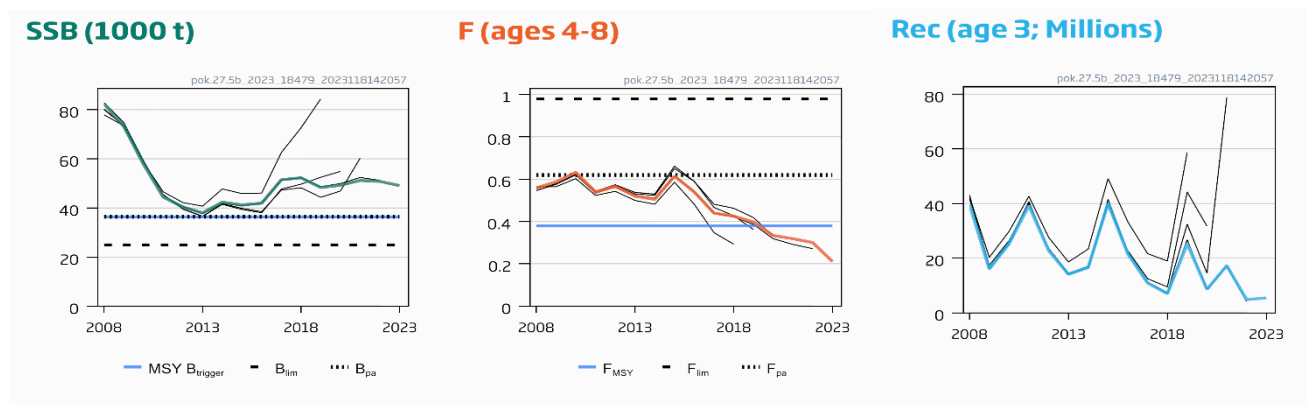


Figure 2 Saithe in Division 5.b (Faroes grounds). Historical assessment results. Results of the last five assessments are plotted, with the solid coloured line representing the current assessment. The plot does not show the line for fishing mortality that ends in 2021 because this year's assessment estimated fishing mortality in the current year (year y), while the last year in previous assessments was the last full calendar year (year $y-1$). The final year F in 2023 for the current assessment is based on estimated catch.

Issues relevant for the advice

In 2021, the Faroese authorities implemented a management plan (Anon., 2019) with a control rule that regulates the number of fishing days for cod, haddock, and saithe in the Faroe Plateau fishery. The management plan has not been evaluated by ICES; therefore, ICES bases its advice on the MSY approach.

ICES cannot quantify the relationship between effort and F for this stock.

There have been a number of lower recruitments in the past 10 years, and estimates of recruitment at age 3 in 2022 and 2023 are the lowest in the time-series.

Catches have been below the ICES advice since 2011.

Reference points

Table 4 Saithe in Division 5.b (Faroes grounds). Reference points, values, and their technical basis. Weights are in tonnes.

Framework	Reference point	Value	Technical basis	Source
MSY approach	MSY $B_{trigger}$	36412	B_{loss} (SSB in 2013)	ICES (2022)
	F_{MSY}	0.38	Stochastic simulations	ICES (2022)
Precautionary approach	B_{lim}	24990	$B_{pa}/\exp(1.645 \times \sigma)$, where $\sigma = 0.228829$	ICES (2022)
	B_{pa}	36412	B_{loss}	ICES (2022)
	F_{lim}	0.98	Stochastic simulations; the F that gives a 50% probability of $SSB > B_{lim}$	ICES (2022)
	F_{pa}	0.62	F_{POS} , stochastic simulations (ICES, 2022): the F that leads to $SSB \geq B_{lim}$ with 95% probability	ICES (2022)
Management plan	SSB_{mgt}	Not applicable		

Basis of the assessment

Table 5 Saithe in Division 5.b (Faroes grounds). Basis of the assessment and advice.

ICES stock data category	1 (ICES, 2023a)
Assessment type	State-space model (SAM) using catches in the model and in the forecast (ICES, 2022b)
Input data	Commercial catches (mainly Faroese catches, ages and length frequencies from catch sampling); Preliminary estimate of catch-at-age in the year (January to September) in which the assessment is carried out; Faroese bottom-trawl surveys FO-GFS-Q1 (G1264) and FO-GFS-Q3 (G3284); annual maturity data from FO-GFS-Q1 (G1264); natural mortality set at $M = 0.2$
Discards and bycatch	Discarding is considered negligible
Indicators	None
Other information	An interbenchmark assessment was performed in 2022 (ICES, 2022)

History of the advice, catch, and management

Table 6 Saithe in Division 5.b (Faroes grounds). ICES advice, TACs, and catch. Weights are in tonnes.

Year	ICES advice	Catch corresponding to advice	Agreed TAC*	ICES catch
1987	No increase in F	< 32000		40020
1988	No increase in F	< 32000		45285
1989	Reduction in F	< 40000		44477
1990	Reduction in F	< 41000		61628
1991	TAC	< 30000		54858
1992	Reduction in F	< 27000		36487
1993	Reduction in F	< 37000		33543
1994	TAC	< 26000	42000 **	33182
1995	TAC	< 22000	39000 **	27209
1996	TAC	< 39000	-	20029

Year	ICES advice	Catch corresponding to advice	Agreed TAC*	ICES catch
1997	20% reduction in F from 1995 level	< 21000	-	22306
1998	30% reduction in effort from 1996/1997 level	-	-	26421
1999	F below F_{pa} (0.28)	< 14000		33207
2000	F below than F_{pa} (0.28)	< 15000		39020
2001	Reduce fishing effort to generate F well below F_{pa} (0.28)	< 17000		51786
2002	Reduce fishing effort to generate F below F_{pa} (0.28)	< 28000		53546
2003	Reduce fishing effort to generate F below F_{pa} (0.28)	< 47000		46555
2004	Reduce fishing effort to generate F below F_{pa} (0.28)	< 48000		46355
2005	Reduce fishing effort to generate F below F_{pa} (0.28)	< 32000		67967
2006	Reduce fishing effort to generate F below F_{pa} (0.28)	< 24000		68465
2007	Average catch considerations	40000		62351
2008	Do not increase effort	-		57044
2009	Reduce fishing effort by around 20%	-		59558
2010	Reduce fishing effort by around 20%	-		45441
2011	Reduce fishing effort to generate F below F_{pa} (0.28)	< 38000		30084
2012	Reduce fishing effort to generate F below F_{MSY} (0.28)	< 40000		35448
2013	F < 0.28	< 29100		26539
2014	Reduce fishing effort to generate F below F_{MSY} (0.30)	< 29000		24103
2015	Reduce fishing effort to generate F below F_{MSY} (0.30)	< 26000		25899
2016	Reduce fishing effort to generate F below F_{MSY} (0.30)	< 36000		29672
2017	MSY approach (F ≤ 0.30)	≤ 46000		30852
2018	MSY approach (F ≤ 0.30)	≤ 35003		24046
2019 ***	MSY approach	≤ 23967		21179
2020	MSY approach	≤ 35636		22920
2021	MSY approach	≤ 27368		17306
2022	MSY approach	≤ 37444		16119
2023	MSY approach	≤ 17843		
2024	MSY approach	≤ 15323		

* Not applicable since 1997.

** 1 September in the quota year to 31 August the following year.

*** Since 2019, fishing year equals to calendar year.

History of the catch and landings

Table 7 Saithe in Division 5.b (Faroes grounds). Catch distribution by fleet in 2022 as estimated by ICES.

Catch	Landings		Discards
	Pair trawls	Other gears	
16 119 tonnes	95%	5%	Negligible
	16 119 tonnes		

There are no reported catches in NEAFC regulatory areas.

Table 8 Saithe in Division 5.b. History of commercial catch and landings; official catches by country and ICES estimated catches are presented. Weights are in tonnes.

Year	Denmark	Estonia	Faroe Islands	France	Germany #	Ireland	Netherlands	Norway	Portugal	UK	USSR/ Russian Fed. ***	Greenland	Iceland	Total	ICES estimate^#
1989			43624	**	29		22	51		9				43735	44477
1990	2		59821	**	15		67	46		33	30			60014	61628
1991			53321	**	32		65	103		84				53605	54858
1992			35979	120	5			85		172	12			36373	36487
1993			32719	75	2			32		704				33532	33543
1994			32406	19	1			156		589				33171	33182
1995			26918	10	41			10		221				27200	27209
1996			19267	12	3			16		633	18			19949	20029
1997		16	21721	9	5			67		460	28			22306	22306
1998			25995	17				53		356				26065	26421
1999			32439		100	0	160			508				33207	33207
2000			*	273	230	0	72		20	566				1161	39020
2001			49676	934	672	0	60		1	788				52131	51786
2002			55165	607	547	0	77		10	598				57004	53546
2003			47933	370	281	0	62		32	699				49377	46555
2004			48222	147	186		0	82	5	833	71			49546	46355
2005			71496	123	1		0	82		4354	210			76266	67967
2006	34		72169	315	49		0	35		1099	104	73		73878	68465
2007			66319	108	3		3	81		412	160	239		67325	62351
2008			63424	97	3		0	38		400	38	0		64000	59243
2009			63339	68	0		0	23		685	44	1	148	64308	59558
2010			48279	46			0	28		706	3			49062	45441
2011			32357	135						19				32511	30084
2012			38278	40								1		38319	35448
2013			28655	31						1	1			28688	26539

Year	Denmark	Estonia	Faroe Islands	France	Germany #	Ireland	Netherlands	Norway	Portugal	UK	USSR/ Russian Fed. ***	Greenland	Iceland	Total	ICES estimate ^.#
2014			25655	28				4		340				26027	24103
2015			27496	122				40		304				27961	25899
2016			30849	336			1	198		601				31986	29672
2017			32966	40				27		291				33325	30852
2018			25692	27				40		214		1		25973	24046
2019			22764	5				40		71			0	22877	21179
2020			24334	20				38		352				24745	22920
2021			18684	63				20					3	18770	17306
2022			16599	68				7		747				17421	16119

* No official catches reported.

** Quantity unknown 1989–1991.

*** Catches up to 1990 are from USSR and, since 1991, from the Russian Federation.

^ Includes catches from Subdivision 5.b.2 and Division 2.a in Faroese waters, as reported to the Faroese Coast Guard.

Catches from Germany in 1989 and 1990 are sum of catches from the German Democratic Republic and the German Federal Republic.

Summary of the assessment

Table 9 Saithe in Division 5.b (Faroes grounds). Assessment summary. Weights are in tonnes, recruitment in thousands.

Year	Recruitment			SSB			Total Catch	F		
	Low	Midpoint	High	Low	Midpoint	High		Low	Midpoint	High
1961	4724	8783	16332	48265	64056	85014	9592	0.069	0.104	0.158
1962	7768	13789	24475	52769	69159	90640	10454	0.082	0.120	0.175
1963	11560	20353	35834	59605	76978	99414	12693	0.090	0.129	0.185
1964	9694	16935	29583	68725	88175	113128	21893	0.117	0.165	0.23
1965	11817	20627	36006	76015	98195	126845	22181	0.134	0.189	0.27
1966	9025	15785	27610	78583	102711	134248	25563	0.135	0.192	0.27
1967	11467	19968	34772	75155	99110	130701	21319	0.114	0.163	0.23
1968	11979	20707	35793	76736	100808	132433	20387	0.117	0.166	0.24
1969	19290	33138	56928	81949	107344	140608	27437	0.139	0.197	0.28
1970	17791	30270	51502	86451	113295	148474	29110	0.136	0.192	0.27
1971	19787	33401	56382	96336	125884	164496	32706	0.132	0.186	0.26
1972	20106	33723	56563	112139	144991	187468	42663	0.178	0.25	0.35
1973	15927	26630	44525	125034	161024	207374	57431	0.21	0.28	0.40
1974	14128	23731	39862	120686	155252	199717	47188	0.21	0.29	0.40
1975	11682	19653	33063	120535	154908	199083	41576	0.196	0.27	0.38
1976	12759	21562	36437	108395	138247	176322	33065	0.190	0.27	0.37
1977	8832	14922	25211	102407	128932	162327	34835	0.199	0.28	0.39
1978	5490	9286	15707	93232	115802	143834	28138	0.185	0.26	0.35
1979	4739	8039	13636	84653	104430	128828	27246	0.194	0.27	0.36
1980	8725	14729	24864	80442	98442	120469	25230	0.20	0.27	0.37
1981	10556	17872	30260	68256	82762	100352	30103	0.26	0.34	0.46
1982	8510	14412	24408	62920	76142	92141	30964	0.27	0.36	0.47
1983	22214	37817	64379	63304	78258	96744	39176	0.33	0.43	0.56
1984	12357	20851	35184	69454	87616	110527	54665	0.33	0.44	0.57
1985	15590	26194	44010	75291	95065	120033	44605	0.33	0.43	0.56
1986	24096	40693	68722	70525	88274	110488	41716	0.38	0.49	0.65
1987	24502	41329	69712	68347	85511	106985	40020	0.36	0.47	0.62
1988	22275	37612	63509	74353	94778	120815	45285	0.32	0.42	0.55
1989	14444	24300	40881	81079	103882	133096	44477	0.30	0.39	0.52
1990	10803	18127	30413	79732	100921	127741	61628	0.37	0.48	0.62
1991	14305	23860	39797	66965	83135	103208	54858	0.50	0.64	0.83
1992	11418	19014	31664	53063	65001	79625	36487	0.44	0.57	0.73
1993	14946	24920	41552	51346	62957	77193	33543	0.37	0.48	0.63
1994	9462	15638	25847	50367	61221	74414	33182	0.34	0.44	0.57
1995	10571	17528	29066	48686	59400	72471	27209	0.34	0.44	0.58
1996	9350	15304	25050	40193	49047	59851	20029	0.26	0.35	0.46
1997	13378	21821	35593	44218	54373	66859	22306	0.26	0.34	0.44
1998	8481	13864	22665	51775	63501	77883	26421	0.26	0.34	0.44
1999	18144	30046	49758	63078	77435	95060	33207	0.27	0.35	0.45
2000	23896	38864	63206	73545	89371	108603	39020	0.27	0.36	0.46
2001	47125	76803	125170	78000	95080	115899	51786	0.38	0.49	0.63
2002	28416	47018	77800	80456	98857	121467	53546	0.33	0.43	0.56
2003	26840	43962	72005	85523	106924	133681	46555	0.30	0.39	0.52
2004	12139	20413	34325	93812	116950	145795	46355	0.31	0.40	0.53
2005	23719	38290	61812	90828	112218	138647	67967	0.32	0.42	0.54
2006	19667	31335	49927	86286	105282	128461	68465	0.39	0.50	0.64
2007	15822	25020	39563	75195	90994	110113	62352	0.40	0.51	0.65
2008	24494	39633	64130	68504	82411	99143	59243	0.44	0.56	0.71
2009	10086	15992	25356	61238	73269	87664	59557	0.46	0.59	0.75
2010	16118	25337	39829	48540	57851	68948	45441	0.49	0.63	0.81
2011	24731	39258	62318	37590	44453	52569	30083	0.42	0.54	0.69

Year	Recruitment			SSB			Total Catch	F		
	Low	Midpoint	High	Low	Midpoint	High		Low	Midpoint	High
2012	14444	22756	35851	33908	40429	48205	35448	0.44	0.57	0.72
2013	8936	14106	22269	31395	38055	46126	26539	0.40	0.52	0.67
2014	10519	16635	26308	34832	42384	51574	24103	0.39	0.51	0.66
2015	25184	40073	63767	33954	41262	50142	25899	0.47	0.62	0.80
2016	13638	21574	34129	33845	41980	52071	29672	0.41	0.54	0.71
2017	6838	10888	17337	40500	51510	65512	30852	0.33	0.44	0.59
2018	4337	7006	11318	41265	52298	66280	24046	0.32	0.43	0.57
2019	15187	25213	41858	37933	48346	61619	21179	0.29	0.40	0.54
2020	5117	8601	14459	38013	49274	63870	22920	0.24	0.33	0.47
2021	9537	17315	31434	38613	51214	67928	17306	0.22	0.32	0.46
2022	2338	4875	10162	36915	50824	69974	16119	0.196	0.30	0.46
2023*	1904	5451	15602	32456	49125	74354	7751	0.120	0.21	0.37

* Catch estimate based on catch statistics to the end of September, extrapolated to the entire year.

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