ECOREGION North Sea
STOCK Saithe in Subarea IV (North Sea), Division IIIa (Skagerrak), and Subarea VI (West of Scotland and Rockall)

Advice for 2015

ICES advises on the basis of the EU–Norway management plan that catches should be no more than 80 097 t. If discard rates do not change from the average of the last two years (2012–2013), this implies commercial landings of no more than 72 854 t.

Stock status

	Fishing pressure			
	2011	2012	2013	
MSY (F_{MSY})	✗	✗	✓	Appropriate
Precautionary approach (F_{pa},F_{lim})	✓	✓	✓	Harvested sustainably
Management plan (F_{MP})	✗	✗	✓	At limit
	Stock size			
	2012	2013	2014	
MSY ($B_{trigger}$)	✗	✗	✗	Below trigger
Precautionary approach (B_{pa},B_{lim})	o	o	o	Increased risk
Management plan (SSB_{MP})	✗	✗	✗	Below trigger

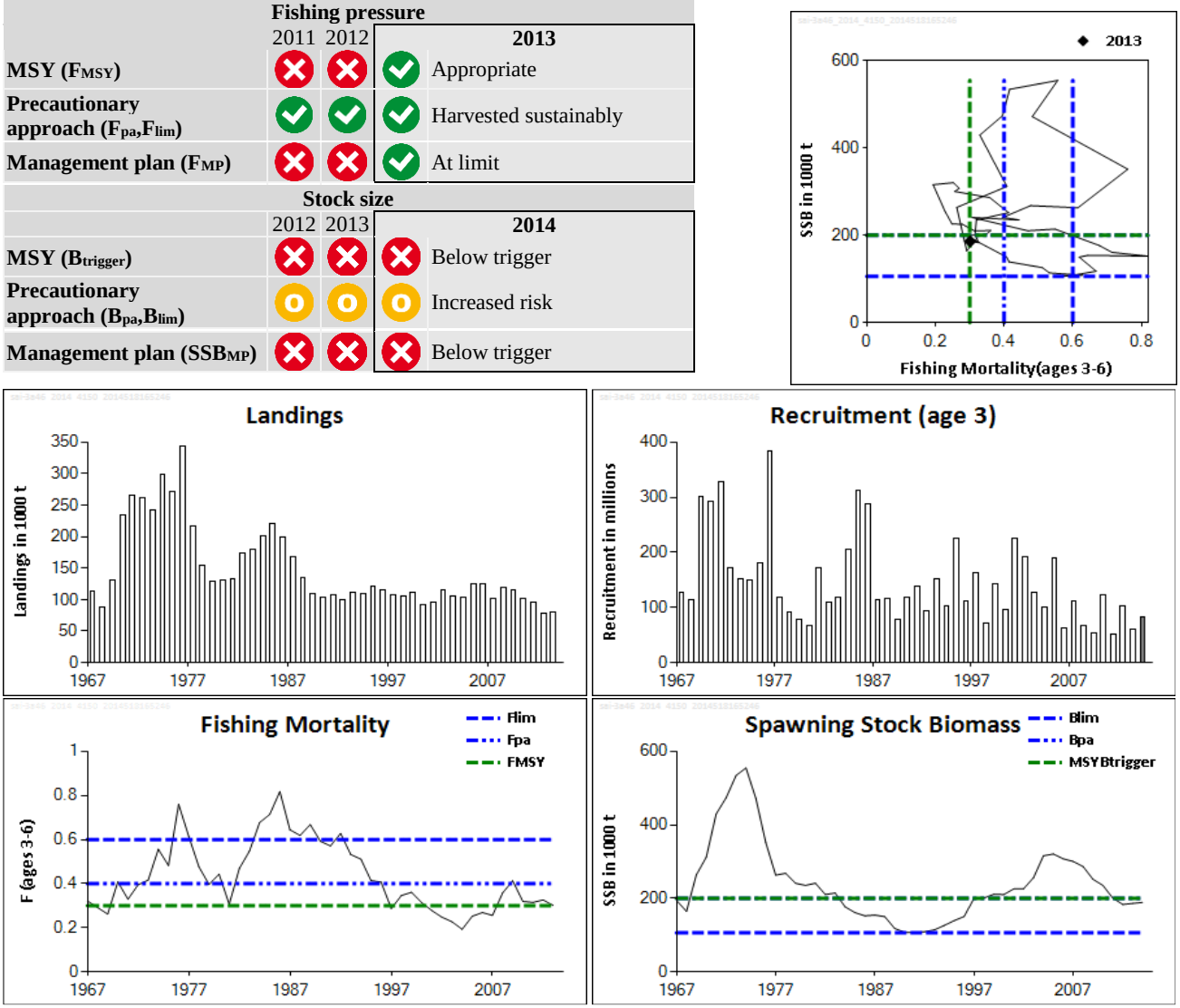

Figure 6.3.21.1 Saithe in Subareas IV and VI, and Division IIIa. Summary of stock assessment (weights in thousand tonnes). Top right: SSB and F for the time-series used in the assessment. Predicted recruitment values are shaded.

Recruitment has been below average since 2006. Fishing mortality has fluctuated around F_{MSY} since 1997. SSB has declined since 2005 and has been slightly below B_{pa} for the last three years.

Management plans

The EU–Norway management plan was reconsidered in February 2013 (Annex 6.3.21), but no modification was implemented. It was previously evaluated by ICES (ICES, 2012) and considered to be consistent with the precautionary approach in the short term (< 4 years).

Biology

The juveniles (ages 0–2 years) generally occur in shallow coastal areas where they are protected from large fisheries. The fish are long-lived (20+ years) and tend to form large aggregations to a higher extent than, for instance, cod. Saithe starts to mature at age 4 (15% mature) and by age 7, all fish can be regarded as being mature. Saithe is one of the top predators in the North Sea ecosystem and saithe abundance influences the yield and abundance of other commercially important species (e.g., whiting, haddock, herring and Norway pout).

Environmental influence on the stock

Low recruitment since 2006 is not linked to low SSB, but may be related to changes in the environment. Current information is not sufficient to identify a relationship between recruitment and specific environmental factors (e.g., temperature, currents, availability of food).

The fisheries

Saithe in the North Sea are mainly caught in a directed trawl fishery in deep water along the Northern Shelf edge and the Norwegian Trench. Analyses showed a substantial shift in the the Norwegian, French and German fleets fishing patterns after 2008, both in time (less fishing during quarter 1 on spawning grounds) and spatial distribution (southward shift towards the outflow region of the Skagerrak) . The Norwegian and French fleets have returned to the original fishing area since 2012 and the German fleet in 2013, but changes in timing still occur.

Catch distribution	Total catch (2013): 89.3 kt, where 79.9 kt were estimated landings (89% bottom trawl fleets, 7% by gillnetters, and the rest by other gear-types). Discards were estimated for the EU fleets (8.1 kt) and assumed to be 0 t for the Norwegian fleet.

Effects of the fisheries on the ecosystem

The directed saithe fisheries is a relatively clean fisheries compared to other bottom trawl fisheries. Reduced benthic biomass is found in areas of bottom trawl activity compared to unfished areas.

Quality considerations

Recent recruitment is poorly estimated with the current surveys. Surveys do not cover the areas inhabited by the recruits and the older fish and commercial cpue indices are also used for tuning. However, commercial cpue may not fully reflect changes stock sizes for a schooling species like saithe.

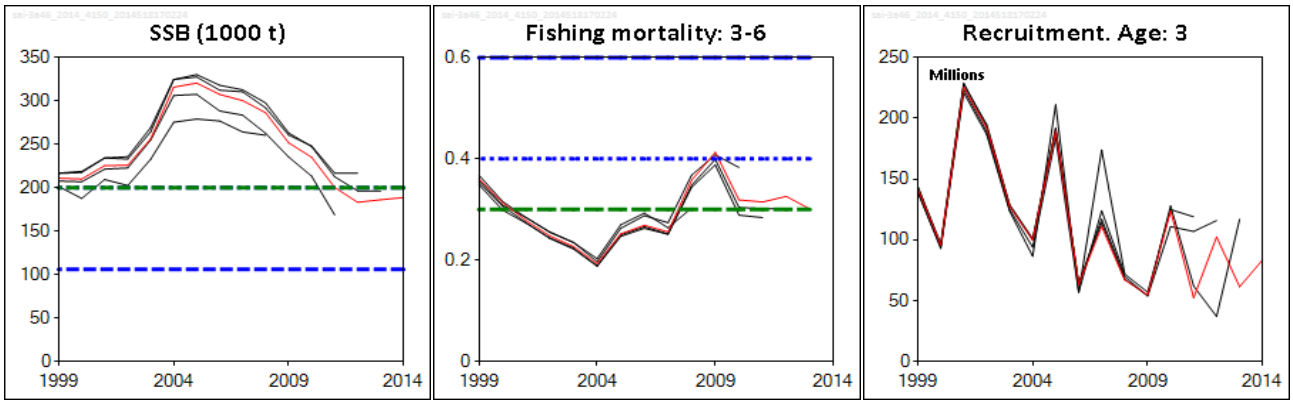

Figure 6.3.21.2 Saithe in Subareas IV and VI, and Division IIIa. Historical assessment results (final-year recruitment estimates included).

Scientific basis

Stock data category	1 (ICES, 2014a).
Assessment type	Age-based assessment model (XSA).
Input data	Commercial catches (international landings, age and length frequencies from catch sampling); 2 survey indices (NORACU, IBTS Q3); 3 commercial indices (FRATRB_IV, GER_OTB_IV, NORTR_IV2). Maturity-at-age and natural mortality are assumed to be constant.
Discards and bycatch	Used to provide advice, but not included in the assessment. Discard information 2012–2013 (covers 81% of the landings of the EU fleet).
Indicators	None.
Other information	Benchmarked in January 2011 (revised in October 2011).
Working group report	Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK), Working Group on Mixed-Fisheries Advice (WGMIXFISH-NS).

ECOREGION North Sea
STOCK Saithe in Subarea IV (North Sea), Division IIIa (Skagerrak), and Subarea VI (West of Scotland and Rockall)

Reference points

	Type	*Value*	*Technical basis*
Management plan	SSB_{MP}	200 000 t	B_{pa}
	F_{MP}	0.3	Or lower depending on SSB in relation to SSB target.
MSY approach	MSY $B_{trigger}$	200 000 t	Default value B_{pa}
	F_{MSY}	0.3	Stochastic simulation using hockey-stick stock–recruitment.
Precautionary approach	B_{lim}	106 000 t	B_{loss} = 106 000 t (estimated in 1998).
	B_{pa}	200 000 t	Affords a high probability of maintaining SSB above B_{lim}.
	F_{lim}	0.6	F_{loss} is the fishing mortality estimated to lead to the stock falling below B_{lim} in the long term.
	F_{pa}	0.4	Implies that $B_{eq} > B_{pa}$ and $P(SSB_{MT} < B_{pa}) < 10\%$.

(last changed in: 2011)

Outlook for 2015

Basis: F (2014) = [TAC constraint] = 0.33; SSB (2015) = 173 960; R (2014) = GM (2005–2013) = 83.206 million; landings (2014) = TAC (2014) = 85 581.

Rationale	**Catches 2015** [1)]	**Landings 2015**	**Landings IIIa&IV 2015** [2)]	**Landings VI 2015** [2)]	**Basis**	**F 2015**	**SSB 2016**	**% SSB change** [3)]	**% TAC change** [4)]
Management plan	80 097	72 854	66 006	6848	Management plan	0.28	178 867	2.8	−14.9
MSY approach	76 260	69 364	62 844	6520	$F_{MSY} \times (SSB_{2015}/B_{trigger})$	0.26	182 015	4.6	−18.9
Precautionary approach	54 457	49 533	44 877	4656	B_{pa} ($F_{2013} \times 0.51$)	0.18	200 001	15.0	−42.1
Zero catch	0	0	0	0	F = 0	0.00	245 585	41.2	−100.0
Other options	85 958	78 185	70 836	7349	F_{MSY}	0.30	174 070	0.1	−8.6
	93 375	84 932	76 948	7984	F_{2014}	0.331	168 020	−3.4	−0.8
	94 089	85 581	77 536	8045	TAC_{2013}	0.334	167 440	−3.7	0.0
Mixed fisheries options – minor differences with calculation above can occur due to different methodology used (ICES, 2014c)									
Maximum	169 608	154 343	139 835	14 508	A	0.70	113 460	−35	80
Minimum	44 826	40 792	36 958	3834	B	0.14	214 756	23	−52
Cod_MP	50 326	45 797	41 492	4305	C	0.16	210 160	21	−46
SQ Effort	88 155	80 221	72 680	7541	D	0.30	178 820	3	−6
Effort_Mgt	65 876	59 947	54 313	5635	E	0.22	197 218	13	−30

Weights in tonnes.

[1)] Catches are calculated based on landings + average discard rate for EU fleet (2012–2013) and assuming no discards in the Norwegian fleet (total discard rate 9.0%).

[2)] Landings split according to the average in 1993–1998, i.e. 90.6% in Subarea IV and Division IIIa West and 9.4% in Subarea VI.

[3)] SSB 2016 relative to SSB 2015.

[4)] Landings 2015 relative to TAC 2014.

Mixed-fisheries assumptions:

A. Maximum scenario: Fleets stop fishing when the last quota is exhausted.
B. Minimum scenario: Fleets stop fishing when the first quota is exhausted.
C. Cod management plan scenario: Fleets stop fishing when the cod quota is exhausted.
D. SQ effort scenario: Effort in 2014 and 2015 as in 2013.
E. Effort management scenario: Effort reductions according to cod and flatfish management plans.

Management plan

The EU–Norway agreement management plan does not clearly state whether it is the SSB in the intermediate year or the SSB at the beginning or end of the TAC year that should be used to determine the status of the stock. ICES interprets this as being the SSB at the beginning of the intermediate year (2014).

Since SSB at the beginning of 2014 is below B_{pa}, paragraph 3 of the harvest control rule applies, resulting in an F of 0.28, which implies catches of no more than 80 097 t. If discard rates do not change from the average of the last two years (2011–2012), this implies landings of no more than 72 854 t. This is expected to lead to an SSB of 178 867 t in 2016, which remains below B_{pa}.

MSY approach

Following the ICES MSY approach implies a fishing mortality of 0.26 (below F_{MSY} because SSB is below MSY $B_{trigger}$), which implies catches of no more than 76 260 t. If discard rates do not change from the average of the last two years (2011–2012), this implies landings of no more than 69 364 t. This is expected to lead to an SSB in 2016 of 182 015 t.

Precautionary approach

A 42% reduction in F is needed to increase SSB to around B_{pa} in 2016, which implies catches of no more than 54 457 t. If discard rates do not change from the average of the last two years (2011–2012), this implies landings of no more than 49 533 t.

Mixed fisheries

Mixed-fisheries advice informs managers of the consequences of setting TACs for single species which are exploited in a mixed fishery (ICES, 2014c). In contrast to single-species advice there is no single recommendation because no management objectives have been defined for mixed fisheries. Mixed-fisheries forecasts explore a range of scenarios which provide insight on the overall balance between the various single-species TACs. Major differences between the outcomes of the various scenarios indicate a potential for undershoot or overshoot of the advised landings corresponding to the single-species advice. The results provide indication of which species are globally limiting for the North Sea fisheries as a whole, but may not necessarily reflect the actual constraints on individual fishers.

Assuming fishing patterns and catchability in 2014 and 2015 are unchanged from those in 2013, cod and *Nephrops* in FU 6 are the limiting species (73% and 27%, respectively) for the fleets in the North Sea demersal fisheries in 2015.

Following the "Cod MP", "Minimum", and "Effort management" scenarios of the mixed-fisheries analyses show that the saithe management plan options could not be fully utilized. It is noted that in the "Maximum" scenario, the implied F would exceed F_{pa} which is not considered precautionary.

Additional considerations

Management plan evaluations

In 2012, an EU–Norway request was made to ICES on options to revise the long-term management plan for saithe (ICES, 2012). ICES advised that all harvest control rule (HCR) options in the request result in less than 5% annual risks of the stock being below the limit biomass reference point (B_{lim}) in the short term (next four years).) The long-term performance of the HCRs is less clear, as it is uncertain whether the stock will develop in accordance with the precautionary approach (i.e. with less than 5% risk of being below B_{lim}) in the long term. No substantial differences were found between the options in terms of risk or yield, although the stability of yield is slightly more different between options. The EU and Norway agreed to keep the old management plan (Appendix 6.3.21).

Because the long-term performance is not clear, ICES advises that the HCR selected for management should be re-evaluated within four years (i.e. no later than 2016) and revised if necessary.

In 2013, the effects of interannual quota flexibility in the management plan for saithe were evaluated (ICES, 2013c). ICES concluded that the harvest control rules evaluated are robust to inclusion of interannual quota flexibility in terms of the probability of the stock biomass falling below Blim, and also concerning average yield. This conclusion is conditional on the interannual quota flexibility being suspended when the stock is estimated to be outside safe biological limits and therefore the management plan should be re-evaluated in 2016 at the latest.

Management considerations

The stock biomass is estimated to be close to B_{pa} and recruitment estimates for the terminal year are uncertain. Under the management plan, the SSB is expected to remain below B_{pa} in 2016. The forecast and resulting advice are highly sensitive to the assumption on the incoming year class for which no information is available. This is likely to lead to greater interannual variability in the advice.

ICES has developed a generic approach to evaluate whether new survey information that becomes available in September forms a basis to update the advice. If this is the case, ICES will publish new advice in November 2014.

Regulations and their effects

Since 2009 the EU fleets fishing for saithe have fallen under the effort regime of the EU cod management plan (Council Regulation (EC) No. 1342/2008). This may have contributed to a southern shift in geographical distribution and less fishing on spawning grounds during the first quarter for the German fleet in 2009 –2012.

Effort restrictions in the EU were introduced in 2003 (annexes to the annual TAC regulations) for the protection of the North Sea cod stock. In addition, a long-term plan for the recovery of cod stocks was adopted in 2008 (Council Regulation (EC) No. 1342/2008). In 2009, the effort management programme switched from a days-at-sea to a kW-day system (Council Regulation (EC) No. 43/2009), in which different amounts of kW-days are allocated within each area by Member Country to different groups of vessels, depending on gear and mesh size. Effort ceilings are updated annually. However, for 2013 and 2014, the European Council decided upon a roll-over of the effort level of 2012 into 2013 and 2014 for both the cod and the sole/plaice management plan.

Overall nominal effort (kW-days) by EU demersal trawls, seines, beam trawls, gill/trammelnets, and longlines (all mesh sizes included) in the North Sea, Skagerrak, and Eastern Channel had been substantially reduced since the implementation of the two successive effort management plans in 2003 and 2008 (−38% between 2003 and 2013, −17% between 2008 and 2013). Following the introduction of days-at-sea regulations in 2003, there was a substantial switch from the larger mesh (>100 mm, TR1) gear to the smaller mesh (70–99 mm, TR2) gear. Subsequently, effort by TR1 has been relatively stable, whereas effort in TR2 and in small-mesh beam trawl (80–120 mm, BT2), has shown a pronounced decline (0%, −52%, and −52%, respectively, between 2004 and 2013). Gill- and trammelnet fisheries have remained stable (ICES, 2014c). Effort in large-mesh beam trawl (≥120 mm, BT1) has increased significantly in 2012 and 2013 after a decade of continuous decline. Nominal effort reported by Norway has increased since 2011 due to the generalization of electronic logbooks.

Information from the fishing industry

Results of the 2013 North Sea Fishers' stock survey were not available.

According to a NSRAC meeting between scientists and fishers in Hanstholm in April 2012, the industry was worried about the decline in mean weight-at-age after 2000. German industry representatives confirmed changes in fishing pattern due to effort management. French industry representatives noted increased competition over fishing grounds between trawlers and gillnetters in Division VIa, especially in 2009 and 2010. No change in mean age of the catch was observed due to this shift in fishing patterns. Industry commented on conflicting data sources and suggested that fishers' knowledge should be used for the interpretation of the data (i.e. commercial cpue indices). Survey data, especially those for young year classes before age 3, must be improved.

Uncertainties in assessment and forecast

The Norwegian acoustic NORACU and Norwegian trawl index were updated and revised. The NORACU index has shown opposite trends compared to the IBTS Q3 survey since 2009; this will be evaluated in an inter-benchmark planned for 2015.

All scientific surveys on adult saithe have shortcomings in coverage (IBTS-Q3, NORACU). Survey data for young year classes before age 3 are needed. Catches from older age classes in the surveys are not representative and therefore commercial cpue indices are also used for tuning.

During the benchmark assessment (ICES, 2011) and the June 2011 assessment, the influence of the commercial cpue indices was reduced by using these indices to tune only the older ages (6–9) instead of using all ages (3–9). The option to include the commercial cpue tuning fleets for ages 3–9 was considered appropriate in the November 2011 update, and also in the 2012–2014 assessments. However, the potential for bias in commercial cpue (for example hyper-stability) is a general concern for shoaling species such as saithe. A reliable scientific survey is needed to address this issue.

Comparison of the basis of previous assessment and advice

The basis for the assessment has not changed from last year. The basis for the advice this year is the same as last year: the management plan.

Assessment and management area

The ICES advice applies to saithe in Division IIIa and in Subareas IV and VI. For these areas, two TACs are set: one for Division IIIa and Subarea IV, and one for Subarea VI.

Sources

ICES. 2008. Norway and EC request on management plan for saithe in the North Sea and West of Scotland. *In* Report of the ICES Advisory Committee, 2008. ICES Advice 2008, Book 6, Section 6.3.3.3.

ICES. 2011. Report of the Benchmark Workshop on Roundfish and Pelagic Stocks (WKBENCH 2011), 24–31 January 2011, Lisbon, Portugal. ICES CM 2011/ACOM:38.

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ICES. 2013a. Report of the Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK), 24–30 April 2013. ICES CM 2013/ACOM:13.

ICES. 2013b. Mixed-fisheries advice for Subarea IV (North Sea) and Divisions IIIa North (Skagerrak) and VIId (Eastern Channel). *In* Report of the ICES Advisory Committee, 2013. ICES Advice 2013, Book 6, Section 6.3.2.

ICES. 2013c. EU request on interannual quota flexibility for saithe in the North Sea. *In* Report of the ICES Advisory Committee, 2013. ICES Advice 2013, Book 6, Section 6.3.5.4.

ICES. 2014a. Advice basis. *In* Report of the ICES Advisory Committee, 2014. ICES Advice 2014, Book 1, Section 1.2.

ICES. 2014b. Report of the Working Group on the Assessment of Demersal Stocks in the North Sea and Skagerrak (WGNSSK), 30 April–7 May 2014. ICES CM 2014/ACOM:13.

ICES. 2014c. Report of the Working Group on Mixed-Fisheries Advice for the North Sea (WGMIXFISH), 26–30 May 2014. ICES CM 2014/ACOM:22.

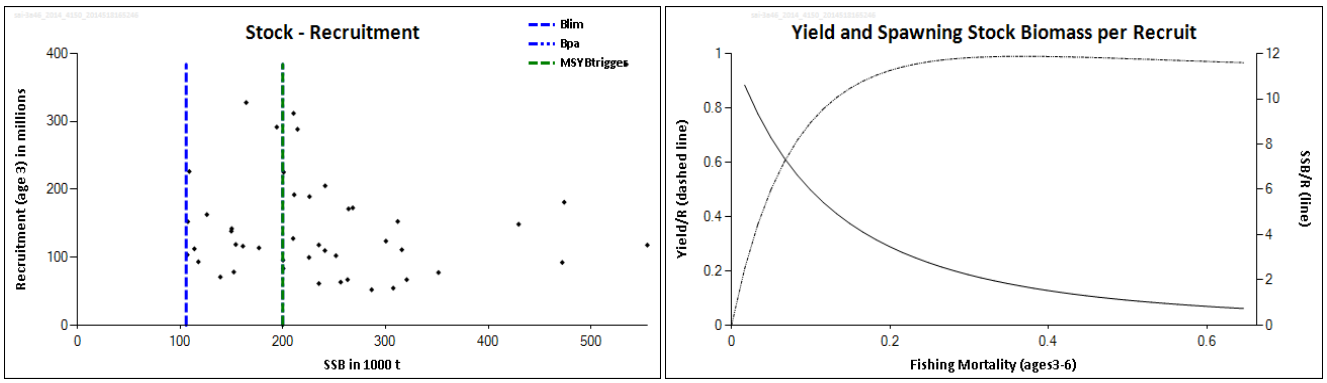

Figure 6.3.21.3 Saithe in Subareas IV and VI and Division IIIa. Stock–recruitment plot and yield-per-recruit analysis.

Table 6.3.21.1 Saithe in **Subarea IV and Division IIIa**. ICES advice, management, and landings.

Year	ICES Advice	Predicted landings corresp. to advice	Predicted catches corresp. to advice	Agreed TAC	Official landings	ICES landings
1987	Reduce F	< 198		173	154	149
1988	60% of F(86); TAC	156		165	113	107
1989	No increase in F; TAC	170		170	92	92
1990	No increase in F; TAC	120		120	85	88
1991	No increase in F; TAC	125		125	93	99
1992	No increase in F; TAC	102		110	92	92
1993	70% of F(91) ~ 93 000 t	93		93	99	105
1994	Reduce F by 30%	72		97	90	102
1995	No increase in F	107		107	97	113
1996	No increase in F	111		111	96	110
1997	No increase in F	113		115	86	103
1998	Reduce F by 20%	97		97	88	100
1999	Reduce F to F_{pa}	104		110	108	107
2000	Reduce F by 30 %	75		85	85	87
2001	Reduce F by 20%	87		87	88	90
2002	$F < F_{pa}$	< 135		135	115	116
2003	$F < F_{pa}$	< 176		165	107.47	101.66
2004	$F < F_{pa}$*	< 211		190	103.61	99.96
2005	F according to man. plan*	< 137		145	110.58	111.54
2006	F according to man. plan ($< F_{pa}$)*	< 123		123	109.80	117.11
2007	F according to man. plan ($< F_{pa}$)*	< 124		123	87.38	93.62
2008	F according to man. plan ($< F_{pa}$)*	< 137		136	114.52	111.43
2009	F according to man. plan ($< F_{pa}$)*	< 126		126	100.68	105.53
2010	F according to man. plan ($< F_{pa}$)*	< 107		107	91.07	95.10
2011	See scenarios	-		93	89.28	89.70
2012[a]	F according to man. plan ($< F_{pa}$)*	< 79.320		79	68.93	69.89
2013	Management plan (TAC +15%)*	< 91.219		91.220	71.60	71.83
2014	Management plan (TAC−15%)*	< 77.536		77.536		
2015	Management plan	< 66.006	< 72.534			

Weights in thousand tonnes.
* Single-stock boundary and the exploitation of this stock should be conducted in the context of mixed fisheries.
[a] The June advice in 2011 was updated in November 2011.

Table 6.3.21.2 Saithe in **Subarea VI**. ICES advice, management, and landings.

Year	ICES Advice	Predicted landings corresp. to advice	Predicted catches corresp. to advice	Agreed TAC**	Official landings	ICES landings
1987	F reduced towards $\mathbf{F}_{max}$	19		27.8	32.5	31.4
1988	80% of F(86); TAC	35		35	32.8	34.2
1989	F < 0.3; TAC	20		30	22.4	25.6
1990	80% of F(88); TAC	24		29	18.0	19.9
1991	Stop SSB decline; TAC	21		22	17.9	17.0
1992	Avoid further reduction in SSB	< 19		17	10.8	11.8
1993	F = 0.21	6.3		14	14.5	13.9
1994	Lowest possible F			14	13.0[b]	12.8
1995	Significant reduction in effort	-		16	10.6[b]	11.8
1996	No increase in F	10.2[a]		13	9.4[b]	9.4
1997	Significant reduction in F			12	8.6[b]	9.4
1998	60% Reduction in F	4.8		10.9	7.4[b]	8.4
1999	60% reduction in F	4.8		7.5	6.8	7.3
2000	Reduce F by 30%	6.0		7	6.4	5.9
2001	Reduce F by 20%	9.0		9	8.7	8.4
2002	$F < F_{pa}$	< 13		14	5.6	5.2
2003	$F < F_{pa}$	< 17		17.1	5.22	5.25
2004	$F < F_{pa}$*	< 21		20	4.81	4.51
2005	F according to man. plan ($< F_{pa}$)*	< 14		15	8.70	5.74
2006	F according to man. plan ($< F_{pa}$)*	< 12		13	9.42	8.57
2007	F according to man. plan ($< F_{pa}$)*	< 12		13	6.69	6.79
2008	F according to man. plan ($< F_{pa}$)*	< 14		14	6.01	7.23
2009	F according to man. plan ($< F_{pa}$)*	< 13		13	6.17	6.96
2010	F according to man. plan ($< F_{pa}$)*	< 11		11	6.22	6.84
2011	See scenarios	-		10	7.31	7.40
2012[c]	F according to man. plan ($< F_{pa}$)*	< 8.230		8	7.56	7.21
2013	Management plan (TAC +15%)*	< 9.464		9.464	8.47	8.06
2014	Management plan (TAC−15%)*	< 8.045		8.045		
2015	Management plan	< 6.848	< 7.525			

Weights in thousand tonnes.

[a] *Status quo* catch.

[b] Incomplete data.

[c] The June advice in 2012 was updated in November 2012.

* Single-stock boundary and the exploitation of this stock should be conducted in the context of mixed fisheries.

** Since 1996, the saithe in this area has been assessed together with North Sea/Skagerrak saithe, with allocation of TAC based on historical landings. In recent years TACs in Subarea VI have been included in a total TAC for Divisions VIIb and VIIc, but it is unclear if anything is added. The areas were combined shortly after the Saithe Study Group meeting in 1995. Presumably the assessment was merged in 1996, and used in the advice for 1997.

Table 6.3.21.3 Saithe in Subarea IV, Division IIIa (Skagerrak), and Subarea VI. Officially reported landings and ICES estimates (in tonnes).

SAITHE Subarea IV and Division IIIa

Country	2003	2004*	2005*	2006	2007*	2008*	2009	2010	2011*	2012*	2013*
Belgium	45	22	28	16	18	7	27	15	2	1	3
Denmark	6954	7991	7498	7471	5458	8069	8802	8019	6325	5170	5690
Faroe Isl.	495	558	184	62	15	108	-	146	0	8	3
France	18001	13628	10768	15739	13043	15302	5445*	4582*	13856	14093	8484
Germany	8956	9589	12401	14390	12790	14141	13689	11192	10234	8007	9698
Greenland	1616	403	-	-	-	-	-	-	0	-	-
Ireland	-	1	-	0	-	81	81	-	0	0	0
Netherlands	11*	3	40	28	5	3	17	3	24	34	168
Norway	61735	62783	67365	61268	45395	62055	57708	53031	46778	33028	35703
Poland	734*	0	1100	-	-	1407	988	654	584	-	-
Russia	-	-	35	2	5	5	13	-	0	-	-
Sweden	1876	2249	2114	1695	1380	1639	1363	1545	1331	1305	1401
UK (E/W/NI)	1215	457	1190	9129**	9628**	11701**	12545**	11887**	10148**	7287**	10453**
UK (Scotland)	5829	5924	7703								
Total reported	107467	103608	110575	109800	87377	114517	100678	91074	89282	68933	71601
Unallocated	−5809	−3646	968	7312	6241	−3084	4851	4026	422	952	19619
ICES estimate	101658	99962	111543	117112	93618	111433	105529	95100	89704	69885	71825
TAC	165000	190000	145000	123250	135900	135900	125934	107000	93600	79320	91220

*Preliminary.
**Scotland+E/W/NI combined.

SAITHE Subarea VI

Country	2003	2004*	2005*	2006	2007*	2008*	2009	2010	2011*	2012*	2013*
Faroe Islands	2	34	21	76	32	23	-	24	5	6	25
France	3499	3053	3452	5782	3956	2617	2093	2003	2382	2612	3775
Germany	54	4	373	532	580	147	298	257	0	9	-
Ireland	170	95	168	243	322	208	208	519	359	341	313
Netherlands	-	-	-	-	-	1	-		0	0	0
Norway	28	16	20	28	377	78	68	249	160	47	715
Russia	6	6	25	7	2	50	4	2	0	-	-
Spain	6	2	3	-	-	-	-		0	-	-
UK (E/W/NI)	263	37	203	2748**	1419**	2887**	3501**	3168**	4399**	4549**	3646**
UK (Scotland)	1189	1563	4433								
Total reported	5215	4810	8699	9416	6688	6011	6172	6222	7305	7564	8474
Unallocated	35	−296	−2960	848	98	1223	791	666	95	−357	−412
ICES estimate	5250	4514	5739	8568	6786	7234	6963	6840	7400	7207	8062
TAC	17119	20000	15044	12787	14100	14100	13066	11000	9570	8230	9464

*Preliminary.
**Scotland+E/W/NI combined.

SAITHE Subarea IV, Division IIIa, and Subarea VI

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ICES estimate	106908	104476	117282	125680	100404	118667	112492	101940	97104	77717	79887
TAC	182119	210000	160044	136037	150000	150000	139000	118000	103170	87550	100684

Table 6.3.21.4 Saithe in Subarea IV, Division IIIa (Skagerrak), and Subarea VI. Summary of stock assessment (landings for fish ages 3–10+).

Year	Recruitment	SSB	Landings	Mean F
	Age 3			**Ages 3–6**
	thousands		**tonnes**	
1967	127456	194228	113751	0.322
1968	114114	164413	88326	0.291
1969	300689	263979	130588	0.262
1970	291836	311949	234962	0.408
1971	327932	429606	265381	0.329
1972	171373	474022	261877	0.395
1973	152852	534466	242499	0.416
1974	148741	554917	298351	0.556
1975	181240	472030	271584	0.482
1976	384114	351617	343967	0.76
1977	118019	263129	216395	0.615
1978	92456	268133	155141	0.477
1979	77657	241084	128360	0.396
1980	67153	235196	131908	0.443
1981	172857	241263	132278	0.306
1982	109994	210527	174351	0.469
1983	118272	214392	180044	0.548
1984	205300	176854	200834	0.677
1985	312017	161191	220869	0.714
1986	288633	152337	198596	0.818
1987	113903	154307	167514	0.644
1988	116425	149996	135172	0.619
1989	78398	117888	108877	0.668
1990	118953	107607	103800	0.592
1991	138487	107158	108048	0.571
1992	93424	109016	99742	0.628
1993	152586	113947	111491	0.532
1994	103741	126196	109622	0.511
1995	226372	139287	121810	0.414
1996	112546	150397	114997	0.407
1997	162979	200254	107327	0.287
1998	71024	200890	106123	0.346
1999	142258	211125	110716	0.361
2000	95717	210157	91322	0.314
2001	225436	225582	95042	0.278
2002	192200	226007	115395	0.248
2003	127706	256368	105569	0.227
2004	99833	315944	104237	0.193
2005	189407	320700	124532	0.252
2006	63528	307605	125681	0.269
2007	111137	300500	101202	0.256
2008	67137	286518	119305	0.358
2009	54695	251814	115747	0.413
2010	123933	235249	101940	0.319
2011	52334	200525	96217	0.315
2012	102456	183311	77447	0.326
2013	61407	186306	79684	0.301
2014	83643*	188837		
Average	**146758**	**239559**	**147843**	**0.433**

* Geometric mean recruitment 2005–2013.

Annex 6.3.21 EU–Norway management plan

In 2013, EU and Norway renewed the existing agreement on *"a long-term plan for the saithe stock in the Skagerrak, the North Sea and west of Scotland, which is consistent with a precautionary approach and designed to provide for sustainable fisheries and high yields. The plan shall consist of the following elements*. The 2008 management plan was extended without changes.

1. *Every effort shall be made to maintain a minimum level of Spawning Stock Biomass (SSB) greater than 106,000 tonnes (Blim).*
2. *Where the SSB is estimated to be above 200,000 tonnes the Parties agreed to restrict their fishing on the basis of a TAC consistent with a fishing mortality rate of no more than 0.30 for appropriate age groups.*
3. *Where the SSB is estimated to be below 200,000 tonnes but above 106,000 tonnes, the TAC shall not exceed a level which, on the basis of a scientific evaluation by ICES, will result in a fishing mortality rate equal to 0.30-0.20*(200,000-SSB)/94,000.*
4. *Where the SSB is estimated by the ICES to be below the minimum level of SSB of 106,000 tonnes the TAC shall be set at a level corresponding to a fishing mortality rate of no more than 0.1.*
5. *Where the rules in paragraphs 2 and 3 would lead to a TAC which deviates by more than 15 % from the TAC of the preceding year the Parties shall fix a TAC that is no more than 15 % greater or 15 % less than the TAC of the preceding year.*
6. *Notwithstanding paragraph 5 the Parties may where considered appropriate reduce the TAC by more than 15 % compared to the TAC of the preceding year.*
7. *A review of this arrangement shall take place no later than 31 December 2015.*
8. *This arrangement enters into force on 1 January 2009."*