ECOREGION North Sea
STOCK Sole in Subarea IV (North Sea)

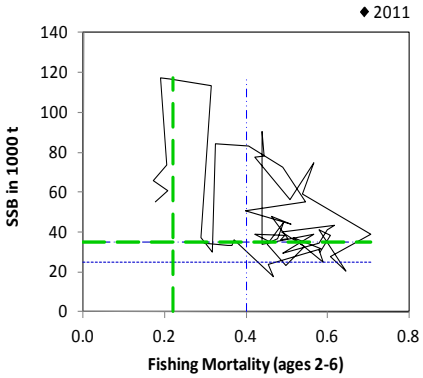
Advice for 2013

ICES advises on the basis of the EU management plan (Council Regulation No. 676/2007) that landings in 2013 should be no more than 14 000 tonnes. ICES notes that the advice is based on stage one of the plan. The implementation of stage two of the plan (as stipulated in article 5 of the EC regulation) is not yet defined.

Stock status

F (Fishing Mortality)	2009	2010	2011	
MSY (F_{MSY})	✗	✗	✗	Above target
Precautionary approach (F_{pa},F_{lim})	✓	✓	✓	Harvested sustainably
Management plan (F_{MP})	✓	✓	✓	Below target

SSB (Spawning-Stock Biomass)	2010	2011	2012	
MSY ($B_{trigger}$)	✗	✓	✓	Above trigger
Precautionary approach (B_{pa},B_{lim})	o	✓	✓	Full reproductive capacity
Management plan (SSB_{MP})	✗	✓	✓	Above target



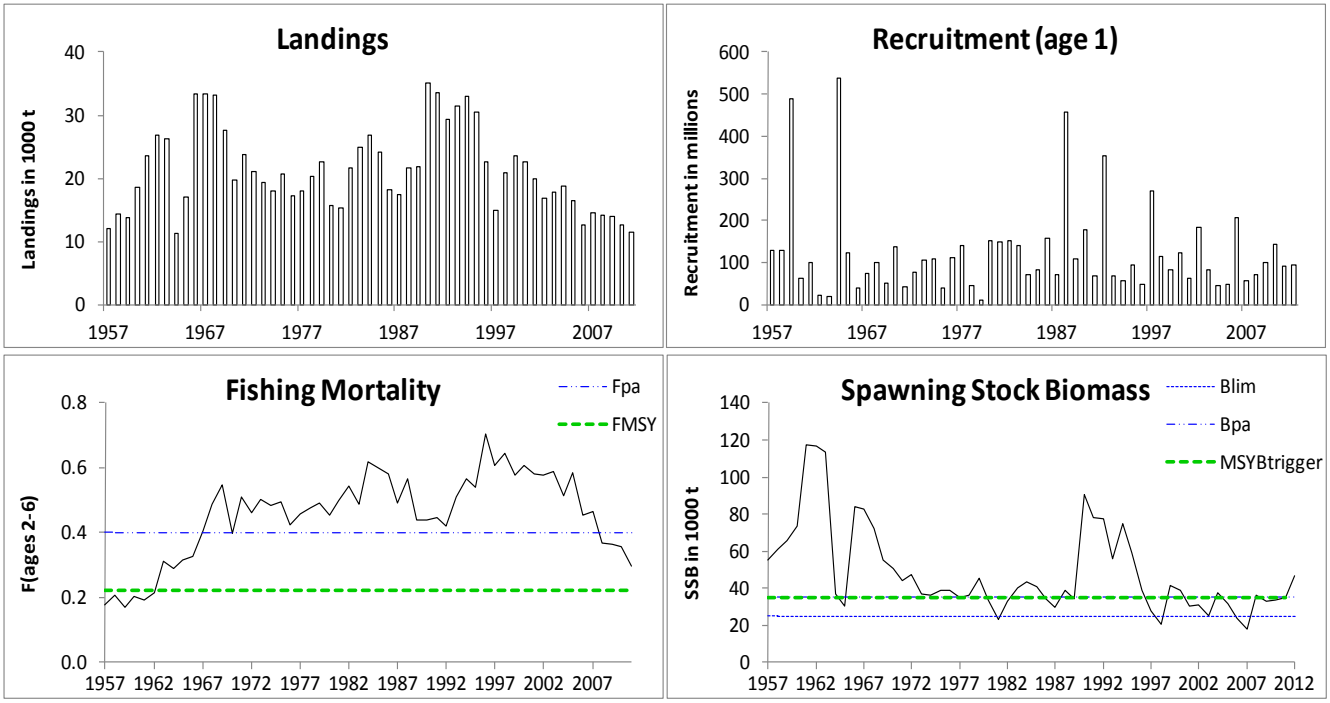


Figure 6.4.10.1 Sole in Subarea IV (North Sea). Summary of stock assessment (weights in '000 tonnes). Top right: SSB and F for the time series used in the assessment.

SSB has fluctuated around the precautionary reference points for the last decade and is estimated to be above B_{pa} in 2012. Fishing mortality has shown a declining trend since 1995 and is estimated to be between F_{MSY} and F_{pa} since 2008.

Management plans

The management plan for North Sea sole and plaice (Council Regulation (EC) No. 676/2007, see Appendix 6.4.10) An evaluation of the plan (ICES, 2010a) concluded that the management plan is precautionary.

Biology

Sole is a nocturnal predator and therefore more susceptible to capture by fisheries at night than in daylight.

The fisheries

Sole is mainly caught by the beam-trawl fleet working with 80 mm mesh. In recent years, and increasing proportion of the traditional beam trawl fleet has switched to sumwing and/or pulse trawl.

Catch distribution	Total catch (2011) = 11.5 kt, where 100% are landings (~83% beam trawl, 13% gill / trammel nets, 4% otter trawl).

Effects of the fisheries on the ecosystem

The mixed plaice and sole fishery is dominated by bottom trawls, with bycatch of both commercial and non-commercial species and a physical impact on the seabed. Bottom trawling impacts biomass, production, and species richness. Trawling impact differs among benthic habitats and is likely to be more important in deeper water with silty sediments than in shallow areas characterized by sandy grounds. Days-at-sea regulations, high oil prices, and changes in the ratio of TACs for plaice and sole have led to a transfer of fishing effort to the southern North Sea where sole and juvenile plaice tend to be more abundant, leading to an increase in discarding of small plaice in the beginning of the 2000s.

Quality considerations

There are divergent signals between the scientific survey and the commercial data used to tune the sole assessment. A survey covering the whole area would be a more suitable index of abundance. Recent increases in pulse trawlers, which have different catchabilities and selectivities as the traditional beam trawlers, may induce bias in the lpue. Data on the extent of the use of new gears is needed. In addition, discards are not included in the assessment, while they have shown a slight increase in recent years.

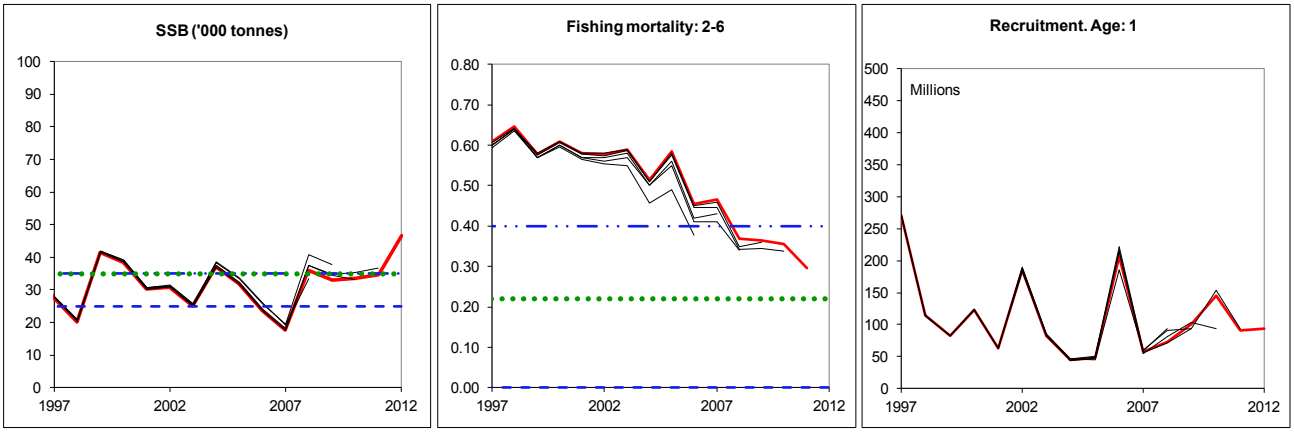


Figure 6.4.10.2 Sole in Subarea IV (North Sea). Historical assessment results (final year recruitment estimates included).

Scientific basis

Assessment type	Age-based analytical assessment (XSA).
Input data	Two survey indices (BTS-ISIS, SNS); one commercial index (NL TBB).
Discards and bycatch	Not included in the assessment.
Indicators	None.
Other information	Benchmarked February 2010 (WKFLAT).
Working group report	WGNSSK

ECOREGION North Sea
STOCK Sole in Subarea IV (North Sea)

Reference points

	Type	*Value*	*Technical basis*
Management Plan	SSB_{MP}	35 000 t	Stage one: Article 2.
	F_{MP}	0.4 0.2	Stage one: Article 2; Stage two: Article 4.
MSY Approach	MSY $B_{trigger}$	35 000 t	Default to value of B_{pa}.
	F_{MSY}	0.22	Median of stochastic MSY analysis assuming Ricker Stock-Recruit relationship (range of 0.2-0.25).
Precautionary Approach	B_{lim}	25 000 t	B_{loss}
	B_{pa}	35 000 t	$B_{pa}1.4*B_{lim}$
	F_{lim}	Not defined.	
	F_{pa}	0.4	F_{pa} = 0.4 implies $B_{eq} > B_{pa}$ and $P(SSB<B_{pa}) < 10\%$

(unchanged since: 2011)

Outlook for 2013

Basis: F (2012) = Fsq = mean (F2009–2011) scaled to 2011 = 0.30; SSB (2013) = 47; R (2012) = 94 mln = GM(1957–2009) ; Landings (2012) =15.

Rationale	Human Consumption landings (2013)	Basis	F Total (2013)	SSB (2014)	%SSB change [1)]	%TAC change [2)]
Management plan	14	F = 0.27 (10% reduction)	0.27	49	4 %	-15 %
MSY transition	14	$(F_{2010}*0.4)+(F_{HCR-MSY}*0.6)$	0.27	48	3 %	-13 %
MSY framework	12	F_{MSY}	0.22	51	8 %	-28 %
Precautionary approach	19	F_{pa}	0.4	43	-9 %	20 %
Zero catch	0	F = 0	0	63	34 %	-100 %
Other options	5.1	$(F_{2012}*0.3)$	0.09	58	23 %	-69 %
	13.770	TAC-15% $(F_{2012}*0.88)$	0.26	49	3 %	-15 %
	15	(F_{2012})	0.3	47	0 %	-7 %
	16	Stable TAC $(F_{2012}*1.07)$	0.32	46	-2 %	0 %
	18.630	TAC+15% $(F_{2012}*1.3)$	0.38	44	-7 %	15 %
	25	$(F_{2012}*1.9)$	0.56	37	-22 %	56 %
Mixed fisheries options – minor differences with calculation above can occur due to different methodology used (ICES, 2012b)						
Maximum	19	A	0.42	42	-11%	+20%
Minimum	7.9	B	0.13	60	+27%	-51%
Cod_MP	8.6	C	0.15	56	+18%	-47%
SQ effort	15	D	0.30	47	+1%	-6%
Effort_Mgt	13	E	0.24	52	+10%	-21%

Weights: '000 tonnes.
[1)] SSB 2014 relative to SSB 2013.
[2)] Human Consumption landings 2013 relative to TAC 2012.
Mixed fisheries assumptions
A. Maximum scenario: Fleets stop fishing when last quota exhausted
B. Minimum scenario: Fleets stop fishing when first quota exhausted
C. Cod management plan scenario: Fleets stop fishing when cod quota exhausted
D. SQ effort scenario: Effort in 2012 and 2013 as in 2011
E. Effort management scenario: Effort reductions according to cod and flatfish management plans

Management plan

Following the EU multiannual plan would imply a 10% reduction of F to 0.27, resulting in a TAC of 14 000 t in 2013 (an exact 15% reduction in comparison to 2012, without applying the 15% TAC change bounds of the plan) and implying a 10% reduction in fishing effort. This is expected to lead to an SSB of 49 000 t in 2014. ICES has evaluated

this management plan and considers it to be precautionary. Both the North Sea plaice and sole stocks have been within safe biological limits in the last two years. According to the management plan (Article 3.2), this signals the end of stage one. Application of the plan is on the basis of transitional arrangements until an evaluation of the plan has been conducted (as stipulated in article 5 of the EC regulation)

MSY approach

Following the ICES MSY framework implies fishing mortality to be reduced to 0.22 (F_{MSY}, as SSB 2012 > MSY $B_{trigger}$), resulting in landings of less than 12 000 t in 2013. This is expected to lead to an SSB of 51 000 t in 2014.

Following the transition scheme towards the ICES MSY framework implies fishing mortality to be reduced to 0.27 ((0.36 *0.4) + (0.22 *0.6)), which will result in landings of less than 14 000 t in 2013. This is expected to lead to an SSB of 48 000 t in 2014.

Precautionary approach

The precautionary F_{pa} for North Sea sole is 0.4. This would lead to landings of 19 000 t in 2013 and an SSB of 41 000 t in 2014.

Mixed fisheries

In 2012, ICES puts forward mixed fisheries advice for the first time (ICES, 2012c). In contrast to single species advice there is no single recommendation but a range of plausible options, assuming fishing patterns and catchability in 2012 and 2013 similar to those in 2011. Major differences between the outcomes of the various scenarios indicate potential unbalance between single-species fishing opportunities. The consequences of this unbalance in terms of changes in fleet dynamics cannot be ascertained.

Cod is the limiting species for the North Sea demersal fisheries in 2013. Following the 'cod' scenario (full implementation of the cod management plan), the sole management plan catch options could not be fully utilised.

Additional considerations

Sole are mainly caught in a mixed beam-trawl fishery with plaice and other flatfish using 80 mm mesh in the southern North Sea. The minimum mesh size in the mixed beam-trawl fishery in the southern North Sea means that large numbers of undersized plaice are discarded. There are indications that in recent years sole discarding has increased. Reasons for the increase are unclear and should be investigated. Measures to reduce discarding in the mixed beam-trawl fishery would greatly benefit these stocks. An increase in the minimum landing size of sole could provide an incentive to fish with larger mesh sizes and would therefore mean a reduction in the discarding of plaice. The minimum landing size of North Sea sole is 24 cm. An increased mesh size in the fishery would reduce the catch of undersized plaice, but would also result in a loss of marketable sole.

The peaks in the historical time-series of SSB of North Sea sole correspond with the occasional occurrence of strong year classes. Due to a high fishing mortality the SSB has declined during the nineties. The SSB and landings have in recent years been dominated by the 2005 year class. The effect of the 2005 year class is now, however, starting to decline. The 2009 year class, which will enter into the SSB in 2012, is above average.

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 2012.

Impacts of fisheries on the ecosystems

Currently the mixed sole and plaice fishery is dominated by bottom trawls, with bycatch of both commercial and non-commercial species and a physical impact on the seabed. Bottom trawling can impact biomass, production, and species richness. For the North Sea, an ecosystem model showed that the bottom-trawl fleet reduced benthic biomass and production by 56% and 21%, respectively, compared with an un-fished situation (Hiddink *et al.*, 2006; Hinz *et al.*, 2008). Chronic fishing has caused a shift from communities dominated by relatively sessile, emergent, and high biomass species to communities dominated by infaunal, smaller-bodied fauna (Kaiser *et al.*, 2000). Within species, the size selectivity may lead to a shift in the age and size at maturation. For example, in recent years plaice and sole have become mature at younger ages and at smaller sizes than in the past.

Regulations and their effects

In the Plaice Box the spatial distribution of juvenile and adult sole remains constant (Grift *et al.*, 2004), following the removal of a large amount of effort. The proportion of undersized sole (<24 cm) did not change after closure and remained stable at a level of 60–70% (Grift *et al.*, 2004). Different length groups showed different patterns in abundance. Sole of around 5 cm showed a decrease in abundance from 2000 onwards, while the groups of 10 and 15 cm seemed rather stable. The largest groups showed a declining trend in abundance, which had already set in years before the closure.

Overall effort (kW-days) by demersal trawls, seines, beam trawls, and gillnets in the North Sea, Skagerrak, and Eastern Channel has been substantially reduced (−20% between 2003 and 2011). Effort by beam trawl fleet in both small mesh size (80–120 mm, BT2) and large mesh size (> 120 mm, BT1) has shown a decline (−3839% and −70%, respectively) between 2003 and 2011.

Regulated 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 (EC regulation 1342/2008). In 2009, the effort management programme switched from a days-at-sea to a kW-day system (EC regulation 43/2009), in which different amounts of kW-days are allocated within each area by member state to different groups of vessels depending on gear and mesh size. Effort ceilings are updated annually. A minor part of the fleets exploiting sole, i.e. otter trawls (OTB) with a mesh size equal to or larger than 100 mm included in TR1, have since 2009 been affected by the regulation. The beam trawl fleet (BT2) was affected by this regulation only once in 2009 but not afterwards.

Changes in fishing technology and fishing patterns

The combination of days-at-sea regulations, high oil prices, and the constrained TAC for plaice (due to the 15% limitation in the multiannual plan) and the relatively stable TAC for sole have lead to a more southern fishing pattern in the North Sea, where sole has become relatively more abundant. This concentration of fishing effort in the South has resulted in increased discarding of juvenile plaice that are mainly distributed in those areas. This process could be aggravated by the movement of juvenile plaice to deeper waters in recent years where they become more susceptible to the fishery. Lpue data also show a slower recovery of stock size in the southern regions that may be caused by higher fishing effort in the more coastal regions.

The increased use of “SumWing” and electric “Pulse trawls” will increasingly affect catchability and selectivity of North Sea sole. In 2011, approximately 30 licenses for Pulse trawls were taken into operation. Potential future impact either on the sole stock itself or the stock assessment is unknown. Furthermore, the introduction of a new mesh meter (the Omega meter) in 2010 has lead to a slight increase in the effective mesh size in the fishery.

Information from the fishing industry

The Fishers’ North Sea stock survey again took place in 2011 (Napier, 2011; Figure 6.4.10.4). Overall, about one-third of respondents (35%) reported that sole were ‘more’ or ‘much more’ abundant in 2011, a much lower proportion than in 2010 (65%). Fishers’ perception of high recruitment in 2010 (38%) is in accordance with the strong 2009 yearclass observed in the assessment.

Preliminary observations by the industry using “Pulse trawls” in 2011 show higher catch rates of sole than traditional beam trawls.

Management plan

A multiannual plan for plaice and sole in the North Sea was adopted by the EU Council in 2007 (EC regulation 676/2007) which describes two stages: to be deemed a recovery plan during its first stage and a management plan during its second stage. ICES considers this plan to be precautionary (ICES, 2010a). Objectives are defined for these two stages; to rebuild the stocks to within safe biological limits and to exploit the stocks at MSY respectively. Stage 1 is deemed to be completed when both stocks have been within safe biological limits for two consecutive years. TAC setting procedures are provided to accommodate stage 1 as well as a transitional period during which and Impact Assessment an evaluation should take place to reconsider long term objectives. The plaice stock has been within safe biological limits as defined by the plan since 2005. The sole stock has been within safe biological limits in terms of fishing mortality since 2008, while SSB has been slightly fluctuating around the biomass limit (Bpa=35 kt) since 2008. Consequently, ICES concludes that the objectives of stage 1 are currently met and provides advice based on the plan’s TAC setting procedure acknowledging to be in a transitional stage at present.

The current plan prescribes effort limitations (kW-days per metier) to be adjusted in line with changes in fishing mortality. The current advice implies a reduction of 10% in effort (following a 10% reduction in F to 0.27 for sole).

Uncertainties in the assessment and forecast

Estimations of sole stock status appear to have a retrospective under-estimation of fishing mortality and over-estimation of SSB, which have resulted in forecast bias.

An explanation for the reduction of fishing mortality in the mid 2000s seems to be a reduction of capacity in the beam-trawl fleet. Also, high fuel prices may have contributed to the decrease in fishing mortality. In the last 3 years effort limitations have not been restrictive.

Changes in commercial fleets (e.g. from beam to pulse trawls) used for tuning the assessment may have introduced bias.

Comparison of previous assessment and advice

The survey data suggest higher fishing mortalities than the commercial data. The conclusion reached at the 2010 benchmark assessment was to base advice on the results of an XSA model tuned with commercial fleet data cut off before 1997. This eliminated the retrospective bias problem because the smaller subset of the commercial data clearly has less of a problem with time-dependent or evolving catchability, although the basic problem remains a concern.

The 2012 assessment is in very close agreement with that of 2011. As last year, the advice is based on the EU management plan.

Sources

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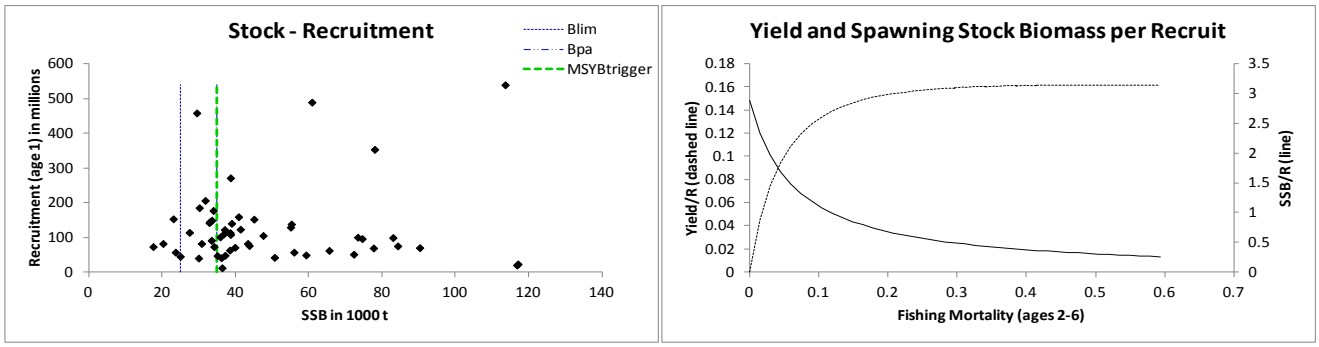

Figure 6.4.10.3 Sole in Subarea IV (North Sea). Stock–recruitment and yield-per-recruit analysis plot.

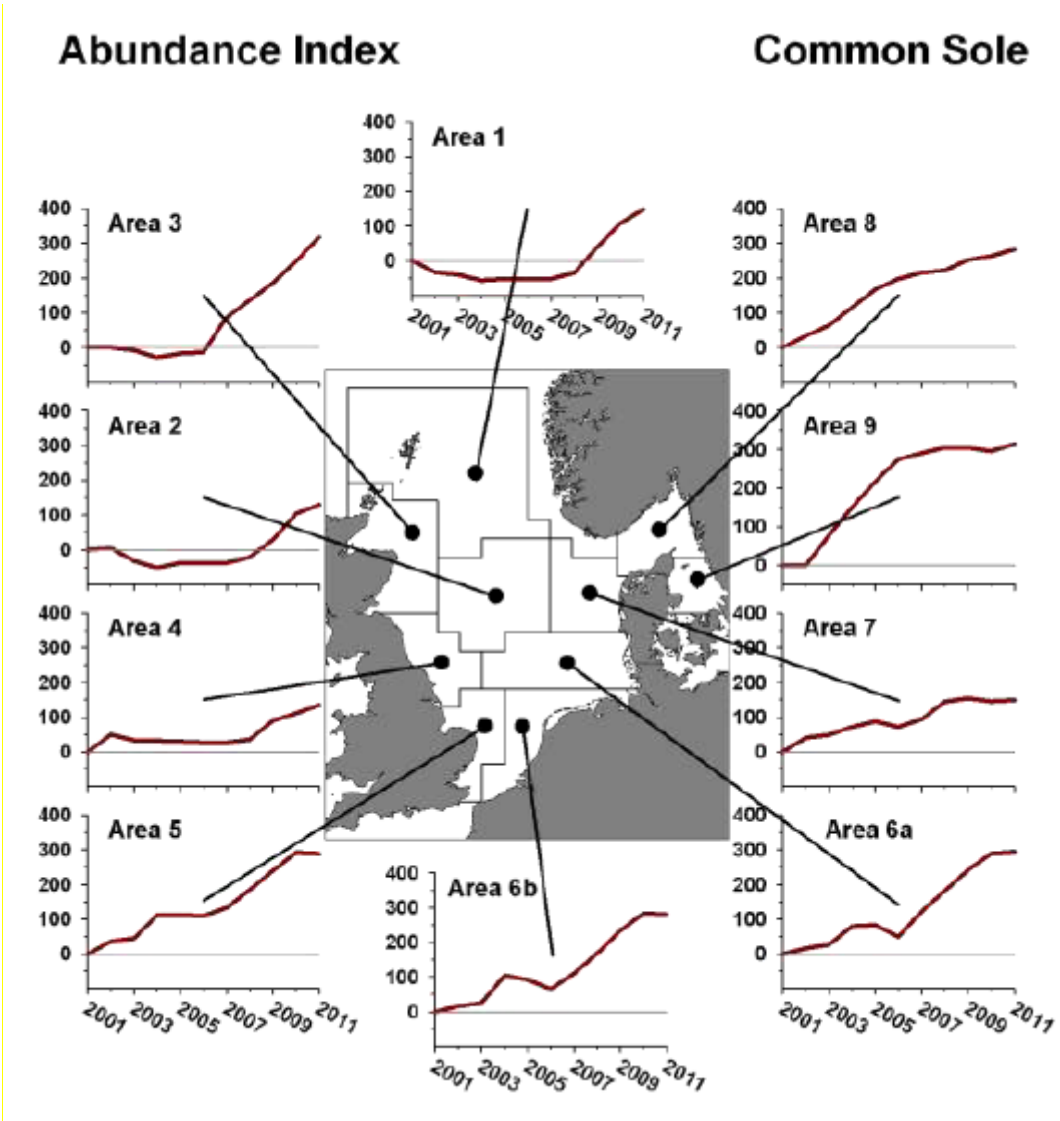

Figure 6.4.10.4 Sole in Subarea IV (North Sea). Results of North Sea Commission fisher's survey 2011 (Napier 2011).

Table 6.4.10.1 Sole in Subarea IV (North Sea). ICES advice, management, and landings.

Year	ICES Advice	Predicted catch corresponding to advice	Agreed TAC	Official landings	ICES landings
1987	Rebuild SSB to 40 000 t; TAC	11.0	14.0	13.8	17.4
1988	Increase SSB towards 50 000 t; TAC	11.0	14.0	13.4	21.6
1989	Increase SSB towards 50 000 t; TAC	14.0	14.0	14.5	21.8
1990	80% of F(88); TAC	25.0	25.0	26.5	35.1
1991	SSB>50 000 t ; TAC	27.0	27.0	27.6	33.5
1992	TAC	21.0	25.0	26	29.3
1993	no long-term gains in increased F	29.0[1]	32.0	29.8	31.5
1994	no long-term gains in increased F	31.0[1]	32.0	31.3	33
1995	no long-term gains in increased F	28.0[1]	28.0	28.8	30.5
1996	Mixed fishery, link plaice advice	23.0[1]	23.0	20.4	22.7
1997	<80% of F(95)	14.6	18.0	13.7	15
1998	75% of F(96)	18.1	19.1	19.7	20.9
1999	$F<F_{pa}$ (80% of F(97))	20.3	22.0	22	23.5
2000	$F< F_{pa}$	<19.8	22.0	20.7	22.5
2001	$F< F_{pa}$	<17.7	19.0	16.4	19.9
2002	F<0.37	<14.3	16.0	16	16.9
2003	$F< F_{pa}$	<14.6	15.85	17.1	17.9
2004	$F< F_{pa}$	<17.9	17.0	17.8	17.1
2005	$F< F_{pa}$	<17.3	18.6	15.6	16.4
2006	Keep SSB above B_{pa}	<11.9	17.67	11,9	12.6
2007	SSB above B_{pa}	<10.8	15.0	13.8	14.6
2008	SSB above B_{pa}	<9.8	12.8	13.4	14.1
2009	Apply management plan	<14.0	14.0	NA	14.0
2010	Apply management plan	<14.1	14.1	12.1	12.6
2011	See scenarios	-	14.1	11.0	11.5
2012	Apply first stage of the management plan	<15.7	16.2		
2013	Apply management plan	<14			

Weights in '000 t.
[1] Catch *status quo* F.

Table 6.4.10.2 Sole in Subarea IV (North Sea). Official landings and ICES landings (tonnes).

Year	Belgium	Denmark	France	Germany	Netherlands	UK (E/W/NI)	Other countries	Total reported	Unallocated landings	ICES Total	TAC
1982	1900	524	686	266	17686	403	2	21467	112	21579	21000
1983	1740	730	332	619	16101	435		19957	4970	24927	20000
1984	1771	818	400	1034	14330	586	1	18940	7899	26839	20000
1985	2390	692	875	303	14897	774	3	19934	4314	24248	22000
1986	1833	443	296	155	9558	647	2	12934	5266	18200	20000
1987	1644	342	318	210	10635	676	4	13829	3539	17368	14000
1988	1199	616	487	452	9841	740	28	13363	8227	21590	14000
1989	1596	1020	312	864	9620	1033	50	14495	7311	21806	14000
1990	2389	1427	352	2296	18202	1614	263	26543	8577	35120	25000
1991	2977	1307	465	2107	18758	1723	271	27608	5905	33513	27000
1992	2058	1359	548	1880	18601	1281	277	26004	3337	29341	25000
1993	2783	1661	490	1379	22015	1149	298	29775	1716	31491	32000
1994	2935	1804	499	1744	22874	1137	298	31291	1711	33002	32000
1995	2624	1673	640	1564	20927	1040	312	28780	1687	30467	28000
1996	2555	1018	535	670	15344	848	229	21199	1452	22651	23000
1997	1519	689	99	510	10241	479	204	13741	1160	14901	18000
1998	1844	520	510	782	15198	549	339	19742	1126	20868	19100
1999	1919	828		1458	16283	645	501	21634	1841	23475	22000
2000	1806	1069	362	1280	15273	600	539	20929	1603	22532	22000
2001	1874	772	411	958	13345	597	394	18351	1593	19944	19000
2002	1437	644	266	759	12120	451	292	15969	976	16945	16000
2003	1605	703	728	749	12469	521	363	17138	782	17920	15850
2004	1477	808	655	949	12860	535	544	17828	-681	17147	17000
2005	1374	831	676	756	10917	667	357	15579	776	16355	18600
2006	980	585	648	475	8299	910		11933	667	12600	17670
2007	955	413	401	458	10365	1203	5	13800	835	14635	15000
2008	1379	507	714	513	9456	851	15	13435	710	14145	12800
2009	1353	NA	NA	555	12038	951	1	NA	NA	13952	14000
2010	1268	406	621	537	8770	526	1.38	12129	474	12603	14100
2011	857	346	539	327	8133	786	2	10990	495	11485	14100

Table 6.4.10.3 Sole in Subarea IV (North Sea). Summary of stock assessment.

Year	Recruitment Age 1 thousands	SSB tonnes	Landings tonnes	Mean F Ages 2-6
1957	129000	55100	12100	0.178
1958	129000	60900	14300	0.207
1959	489000	65600	13800	0.171
1960	62000	73400	18600	0.204
1961	100000	117100	23600	0.190
1962	23000	116800	26900	0.213
1963	20000	113600	26200	0.313
1964	539000	37100	11300	0.289
1965	122000	30000	17000	0.317
1966	40000	84300	33300	0.325
1967	75000	83000	33400	0.406
1968	99000	72300	33200	0.489
1969	51000	55300	27600	0.546
1970	138000	50700	19700	0.399
1971	42000	43800	23700	0.510
1972	76000	47600	21100	0.461
1973	105000	36900	19300	0.502
1974	110000	36200	18000	0.485
1975	41000	38600	20800	0.496
1976	113000	39000	17300	0.422
1977	140000	35100	18000	0.458
1978	47000	36400	20300	0.476
1979	12000	45100	22600	0.492
1980	152000	33600	15800	0.452
1981	149000	23100	15400	0.497
1982	153000	32900	21600	0.543
1983	142000	39900	24900	0.488
1984	71000	43400	26800	0.618
1985	82000	40900	24200	0.599
1986	159000	34200	18200	0.580
1987	73000	29500	17400	0.491
1988	458000	38700	21600	0.566
1989	108000	34000	21800	0.439
1990	177000	90300	35100	0.440
1991	70000	78000	33500	0.445
1992	353000	77700	29300	0.421
1993	69000	56000	31500	0.508
1994	57000	74600	33000	0.567
1995	96000	59300	30500	0.538
1996	49000	38700	22700	0.706
1997	271000	27500	14900	0.608
1998	114000	20300	20900	0.646
1999	82000	41400	23500	0.579
2000	123000	38500	22600	0.608
2001	63000	30200	19900	0.581
2002	185000	30800	16900	0.578
2003	82000	25000	17900	0.590
2004	45000	37200	18800	0.514
2005	48000	31800	16400	0.584
2006	206000	23700	12600	0.455
2007	57000	17600	14600	0.466
2008	73000	35900	14100	0.369
2009	101000	33100	14000	0.364
2010	145000	33500	12600	0.355
2011	91000	34700	11500	0.296
2012	94000*	46700		
Average	123208	48331	21211	0.455

* long term geometric mean (1957-2009)

6.4.10 Appendix

Extract from *Council Regulation (EC) No 676/2007 of 11 June 2007 establishing a multiannual plan for fisheries exploiting stocks of plaice and sole in the North Sea*

Article 2 Safe biological limits

1. *For the purposes of this Regulation, the stocks of plaice and sole shall be deemed to be within safe biological limits in those years in which, according to the opinion of the Scientific, Technical, and Economic Committee for Fisheries (STECF), all of the following conditions are fulfilled:*
   (a) the spawning biomass of the stock of plaice exceeds 230 000 tonnes;
   (b) the average fishing mortality rate on ages two to six years experienced by the stock of plaice is less than 0,6 per year;
   (c) the spawning biomass of the stock of sole exceeds 35 000 tonnes;
   (d) the average fishing mortality rate on ages two to six years experienced by the stock of sole is less than 0,4 per year.
2. *If the STECF advises that other levels of biomass and fishing mortality should be used to define safe biological limits, the Commission shall propose to amend paragraph 1*

Article 3 Objectives of the multiannual plan in the first stage

1. *The multiannual plan shall, in its first stage, ensure the return of the stocks of plaice and of sole to within safe biological limits.*
2. *The objective specified in paragraph 1 shall be attained by reducing the fishing mortality rate on plaice and sole by 10 % each year, with a maximum TAC variation of 15 % per year until safe biological limits are reached for both stocks.*

Article 4 Objectives of the multiannual plan in the second stage

1. *The multiannual plan shall, in its second stage, ensure the exploitation of the stocks of plaice and sole on the basis of maximum sustainable yield.*
2. *The objective specified in paragraph 1 shall be attained while maintaining the fishing mortality on plaice at a rate equal to or no lower than 0,3 on ages two to six years.*
3. *The objective specified in paragraph 1 shall be attained while maintaining the fishing mortality on sole at a rate equal to or no lower than 0,2 on ages two to six years.*

Article 5 Transitional arrangements

1. *When the stocks of plaice and sole have been found for two years in succession to have returned to within safe biological limits the Council shall decide on the basis of a proposal from the Commission on the amendment of Articles 4(2) and 4(3) and the amendment of Articles 7, 8 and 9 that will, in the light of the latest scientific advice from the STECF, permit the exploitation of the stocks at a fishing mortality rate compatible with maximum sustainable yield.*

Article 8 Procedure for setting the TAC for sole:

1) *The Council shall adopt a TAC for sole at that level of catches which, according to a scientific evaluation carried out by STECF is the higher of:*
   a) *that TAC the application of which will result in the level of fishing mortality rate of 0,2 on ages two to six years in its year of application;*
   b) *that TAC the application of which will result in a 10 % reduction in the fishing mortality rate in its year of application compared to the fishing mortality rate estimated for the preceding year.*
2) *Where the application of paragraph 1 would result in a TAC which exceeds the TAC of the preceding year by more than 15 %, the Council shall adopt a TAC which is 15 % greater than the TAC of that year.*
3) *Where the application of paragraph 1 would result in a TAC which is more than 15 % less than the TAC of the preceding year, the Council shall adopt a TAC which is 15 % less than the TAC of that year.*