

5.4.21 Cod in Division VIa (West of Scotland)

State of the stock

Spawning biomass in relation to precautionary limits	Fishing mortality in relation to precautionary limits	Fishing mortality in relation to high long term yield	Fishing mortality in relation to agreed target reference points	Comment
Reduced reproductive capacity	Unknown	Unknown	Unknown	Total mortality cannot be accurately partitioned into fishing mortality and natural mortality

Based on the most recent estimates of SSB (in 2009) ICES classifies the stock as suffering reduced reproductive capacity. Total mortality is high, but cannot be accurately partitioned into fishing mortality and natural mortality. The spawning-stock biomass has increased from an all time low in 2006, but remains well below B_{lim} . Recruitment has been estimated to be low over the last decade. The 2005 year class is estimated to be the largest for that decade, but still below the long-term average.

Management objectives

EU has adopted a long-term plan for cod stocks and the fisheries exploiting those stocks (Council Regulation (EC) 1342/2008). Articles relevant to west of Scotland cod are reproduced in the Annex to Section 5.4.21. This regulation repeals the recovery plans in Regulation (EC) No 423/2004, and has the objective of ensuring the sustainable exploitation of the cod stocks on the basis of maximum sustainable yield while maintaining a target fishing mortality of 0.4 on specified age groups.

Because it is not possible at present to assess unaccounted mortality accurately, ICES cannot yet evaluate if the management plan is in accordance with the precautionary approach.

Reference points

	Type	Value	Technical basis
Precautionary approach	B_{lim}	14 000 t	$B_{lim} = B_{loss}$, the lowest observed spawning stock estimated in previous assessments.
	B_{pa}	22 000 t	This is considered to be the minimum SSB required to ensure a high probability of maintaining SSB above B_{lim} , taking into account the uncertainty of assessments. This also corresponds with the lowest range of SSB during the earlier, more productive historical period.
	F_{lim}	0.8	Fishing mortalities above this have historically led to stock decline.
	F_{pa}	0.6	This F is considered to have a high probability of avoiding F_{lim} .
Targets	F_{mgt}	0.4	Council Regulation (EC) 1342/2008.

(F_{mgt} introduced 2009, otherwise unchanged since: 1998)

Yield and spawning biomass per Recruit F-reference points (assuming $M=0.2$) (2009):

	Fish Mort Ages 2-5	Yield/R	SSB/R
Fmax	0.21	1.49	7.60
F0.1	0.14	1.41	10.86

Single-stock exploitation boundaries

ICES evaluated the long-term management plan and has not yet been able to confirm that it is precautionary. Considering the options below, ICES advises on the basis of exploitation boundaries in relation to precautionary considerations that no fishing should take place on cod in Division VIa.

Exploitation boundaries in relation to existing management plans

Due to the uncertainty in the level of fishing mortality, ICES is not in a position to give quantitative forecasts. Given the stock status it is likely that the stock will fall into the category defined in Article 9.a of the plan which implies a 25% TAC reduction.

Exploitation boundaries in relation to precautionary considerations

Given the low SSB and low recruitments in recent years, it is not possible to identify any non-zero catch which would be compatible with the precautionary approach.

Short-term implications

Because of uncertainties in the level and trend of natural mortality it is not possible to partition F from other sources of mortality. An exploratory short-term forecast was performed to consider projections of SSB under different levels of removals. Under the option of zero removals SSB was predicted to still be below B_{lim} in 2011, even when a 25% cut in the mortality caused by total removals was assumed in the intermediate year.

Management considerations

The stock is suffering impaired recruitment. SSB is very low. It is necessary to reduce all sources of fishing mortality to recover the stock above B_{lim} as quickly as possible. Management measures taken thus far have not recovered the stock.

The previous cod recovery plan did not apply west of a line known as the west of Scotland management line. The cod long term management plan (EC Reg. No. 1342/2008) introduces a new west of Scotland management line that now closely follows the 200 m depth contour. This expands the area contained east of the line. Fleets fishing at depths less than 200m (i.e. east of the management line) are subject to the effort restrictions of the management plan and new gear technical measures specified in EC Reg. No. 43/2009. Vessels fishing to the west of the management line are still subject to effort restrictions (but may apply for additional effort up to the point where fleet aggregated effort equals that from the previous year if fleet effort allowances were cut).

Grey seal abundance has increased from 32 to 40 thousand west of Scotland over the recent decades (Thomas and Harwood, 2008). Seals are known to feed on cod, amongst other species, and the mortality of cod due to seal predation is likely to have increased in recent years. The contribution of seal predation to total cod mortality is likely to be significant (Pope and Holmes, 2008). This may impair the ability of the cod stock to recover.

There are indications that because of new legislation, misreporting has reduced from the beginning of 2006 (see Regulations and their effects below). Coincident with this data show increased discards at ages one and two and a change in discard practices such that fish are discarded at older ages. This suggests the legislation has controlled landings rather than catch.

Management plan evaluations

ICES has previously concluded that a precautionary recovery plan must include an adaptive element implying that fisheries for cod remain closed until an initial recovery of the cod SSB has been proven. On this basis ICES concluded the Council Regulation (EC) No. 423/2004, establishing measures for the recovery of cod stocks was not consistent with the precautionary approach.

This year ICES has evaluated the revised long-term plan for cod (Council Regulation (EC) 1342/2008) in relation to the precautionary approach. This evaluation looked at the harvest control rule in Article 7 of the plan and concluded that the stock would recover by 2015 but this was associated with a rapid decline in fishing mortality as a consequence of the TAC constraint. Given the recent changes in discarding in response to a moderate year class this was considered to be an unrealistic scenario. Implementation of Article 7 of the plan is complicated by the fact that it is also not possible to partition the total mortality into that attributable to landings, discards, other causes due to fishing and natural mortality in excess of the assumed 0.2.

This stock is therefore expected to be subject to Article 9(a) (annual 25% TAC reductions from the 2009 TAC) and possibly Article 10(2) ((a) sets the TAC at a level lower than that provided for in Articles 7, 8 and 9; and (b) sets the maximum allowable fishing effort at a level lower than that provided for in Article 12). These are not simulated in the ICES evaluations of the plan and it is not possible to determine from the evaluations if the implementation of Article 9 is precautionary. The conditions that would trigger application of Article 10(2) (i.e. the STECF criteria for determining "that any of the cod stocks is failing to recover properly") are also not defined and not incorporated in the ICES

evaluation. In theory this could make the management plan precautionary but the rules under which this clause might be invoked are not set out in the plan.

The plan also includes multi-annual effort reductions which are commensurate with the F reductions (Article 7) and TAC reductions (in the case of Article 9). For the management plan to succeed in recovering the cod stock in VIa, whilst maintaining mixed fisheries, it will be necessary to have well-targeted effort control for fleets with cod by-catches whilst reducing the by-catches of cod to as close to zero as possible. This could be most reliably achieved through the provisions of Chapter III of the plan, particularly through avoidance schemes and the use of highly selective gears. The success of these measures requires close collaboration with the fishing industry and sufficient industry uptake and compliance with new measures.

ICES has previously commented on the appropriateness of F 0.4 as a target in this stock. Based on the yield-per-recruit analysis, which estimates $F_{\max}=0.21$ and the positive relationship of SSB and recruitment, the long term target fishing mortality of 0.4 is not expected to achieve the management objective of maximum sustainable yield.

Impacts of fisheries on the ecosystems

For a general description of the impacts of the demersal trawl fishery in ICES Division VIa see the overview. Cod is taken in mixed demersal fisheries and there are no impacts specific to the catching of cod.

Factors affecting the fisheries and the stock

Regulations and their effects

The fishery is managed by a combination of TAC, area closures, technical measures, and effort restrictions. These do not seem to have been effective in controlling mortality or sufficient to rebuild the stock to precautionary levels.

Area closures

- Clyde Sea area closure – STECF (2007) noted that the Clyde closure includes the main spawning area of a reproductively isolated aggregation of cod and concluded that the closure is likely to have a positive effect in reducing targeting of high densities of mature cod.
- Windsock closed area – STECF (2007) concluded that the extent of the Windsock closure is unlikely to be large enough to greatly reduce fishing mortality on cod, and its boundaries should be reconsidered. However, its removal would not help improve cod recovery.

Mesh sizes and catch composition rules

- Catch composition rules related to days-at-sea allowances (Reg. (EC) 850/1998 Annex I and Reg. (EC) 2056/2001) – These rules legislate for landings compositions but do not restrict discards.
- New gear technical measures specified in EC Reg. No. 43/2009 have been introduced with the aim of increasing gear selectivity. The regulation also includes new catch composition rules.
- It is too early to evaluate the impact of these new regulations

Effort limitations

- Between 2002 and 2007 STECF (2008) reported that the fishing effort (in KWdays) of trawlers using >100 mm mesh declined by 59%. These vessels primarily targeted round fish including cod. Over the same period effort for trawlers using 70-99 mm mesh remained relatively stable. These vessels primarily target *Nephrops*.
- Further effort reductions have been implemented since February 2009 under Annex IIa of Reg. (EC) 43/2009. . This includes a 25% reduction in effort for all trawl fleets relative to a recent average effort.

Supply chain traceability

U.K. “Buyers and Sellers” regulation and Irish “Sales Note” regulation – Unreported landings are expected to have reduced under these regulations. Observer data, however, show an increase in discards starting in 2006. The amount of discards relative to landings has increased and the age pattern of discarding has changed. Currently discards of fish aged 3 and above are being recorded.

Cod avoidance measures

In 2008, Scotland introduced a voluntary programme known as “Conservation Credits”, which involved real-time closures (RTCs) combined with gear requirements. This was designed to reduce mortality and discarding of cod. The scheme was incentivised by rewarding participating skippers with additional days at sea. The real-time closures system discouraged vessels from operating in areas of high cod abundance. In 2009, the scheme has been further developed, taking advantage of provisions in the European Union effort management regulations agreed at the 2008 December Council. The annual target for the number of closures has been increased substantially (to 150 for all areas subject to the cod management plan) and they are more spatially widespread and mandatory in 2009, with up to 12 being implemented at any one time. Closures are determined by landings per unit effort, based on fine scale VMS data and daily logbook records. The scheme also includes voluntary ‘amber zones’ that surround closed areas and the use of more species selective gears.

Changes in fishing technology and fishing patterns

The implementation of the cod long term plan effort controls (Annex IIa of Reg. (EC) 43/2009) and other technical measures including gear restriction in VIa (Annex III of Reg. (EC) 43/2009) is expected to lead to large changes in fishing patterns in 2009.

Impacts of the environment on the fish stock

ICES (2008) reported on the general warming trend of the Northern Shelf waters. A negative impact on recruitment with rising sea temperature has been shown for cod in the warmer waters of this species’ range, including cod west of Scotland (Brunel and Boucher, 2007).

Scientific basis

Data and methods

A catch-at-age model using catch data up to 1994 tuned by survey data and utilizing survey information alone from 1995 onward was used to evaluate trends in spawning-stock biomass and recruitment. Trends in SSB are similar to the results obtained from a model based on survey data alone. Estimates of mortality are those from total removals, i.e. fishing mortality plus unaccounted mortality. Discards-at-age data were raised from data provided by Scotland only.

Uncertainties in assessment and forecast

Landings data are considered to be very uncertain, due to incorrect reporting of landings (species and quantity). There are indications that misreporting has reduced from the beginning of 2006. In the current set-up of the assessment model discard information is removed for the same years for which landings data is removed. The increase in discards at ages one and two in 2006 and 2007 is not accounted for in the assessment. This will not affect the stock trends from the assessment model.

Survey information shows that the total removal of cod in Division VIa may have been underestimated in the past decade relative to earlier periods. In an attempt to remove bias in the assessment a catch-at-age model was used that ignored landings and discard numbers from 1995 onwards, relying on survey data for this later period. It is, however, considered that mortality estimates arising from this assessment heavily or wholly based on survey data are poorly estimated. In contrast, historical trends in spawning biomass and recruitment appear to be robust measures of stock dynamics, see Figure 5.4.21.3.

The single survey series used is variable. This causes estimation of mortality-at-age to be uncertain. Because of uncertainties in the level and trend of natural mortality it is not possible to predict landings estimates from the forecast, only removals associated with both fishing and unaccounted natural mortality.

Comparison with previous assessment and advice

The perception of the state of the stock remains unchanged. As last year the current assessment estimates SSB to have increased from 2006 to 2007 and again from 2007 to 2008 but SSB is estimated to decrease again in 2009. Also, forecasts still put SSB below B_{lim} in 2010 and 2011. The advice is the same as last year.

Sources of information

Report of the Working Group on the Assessment of Northern Shelf Demersal Stocks, 15-21 May 2008 (ICES CM 2008/ACOM:08).

Brunel, T., and Boucher, J. 2007. Long-term trends in fish recruitment in the north-east Atlantic related to climate change. *Fisheries Oceanography*, 16(4): 336–349.

Hammond, P. S., and Harris, R. N. 2006. Grey seal diet composition and prey consumption off western Scotland and Shetland. Final report to Scottish Executive Environment and Rural Affairs Department and Scottish Natural Heritage.

ICES. 2006. Report of the Working Group on the Assessment of Northern Shelf Demersal Stocks (WGNSDS), 9–18 May 2006, ICES Headquarters, Denmark. ICES CM 2006/ACFM:30. 870 pp.

ICES, 2008a. Report of the Ad hoc Group on Cod Recovery Management Plan (AGCREMP), 18-19 August 2008, ICES, Copenhagen, Denmark. ICES CM 2008/ACOM:61. 26 pp.

ICES. 2008b. Report of the Working Group for Regional Ecosystem Description (WGRED), 25–29 February 2008, ICES, Copenhagen, Denmark. ICES CM 2008/ACOM:47. 203 pp.

ICES. 2009. Report of the Working Group on Celtic Seas Ecoregion (WGCSE), 13–19 May 2009, ICES Headquarters, Denmark. ICES CM 2009/ACOM:09.

Pope, J. G., and Holmes, S. J. 2008. Length-based Approaches compared to Age-based Approaches to Determining the Significance of Grey Seal Feeding on Cod in ICES Division VIa. ICES CM 2008/F:08.

STECF. 2007. Evaluation of closed area schemes (SGMOS-07-03).

STECF. 2008. STECF sub group SGRST on Fishing Effort Regime, Ispra 2–6 June 2008 and Lysekil, 1–5 September 2008.

Thomas, L. and J. Harwood. 2006. Estimating the size of the UK grey seal population between 1984 and 2005, and related research. SCOS Briefing Paper 08/2.

Table 5.4.21 Cod in Division VIa (West of Scotland). Single-stock exploitation boundaries (advice), management and landings.

Year	ICES advice	Single-stock exploitation boundaries	Predicted catch corresp. to advice	Predicted catch corresp. to single-stock boundaries	Agreed TAC ¹	Official landings	ICES Landings
1987	Reduce F towards $F_{\max}$		18.0		22.0	19.2	19.0
1988	No increase in F; TAC		16.0		18.4	19.2	20.4
1989	80% of F(87); TAC		16.0		18.4	15.4	17.2
1990	80% of F(88); TAC		15.0		16.0	11.8	12.2
1991	70% of effort (89)		-		16.0	10.6	10.9 ²
1992	70% of effort (89)		-		13.5	9.0	9.7 ³
1993	70% of effort (89)		-		14.0	10.5	11.8 ³
1994	30% reduction in effort		-		13.0	9.1	10.8 ³
1995	Significant reduction in effort		-		13.0	9.7	9.6 ³
1996	Significant reduction in effort		-		13.0	9.6	9.4
1997	Significant reduction in effort		-		14.0	7.0	7.0
1998	20% reduction in F		9.5 ⁵		11.0	5.7	5.7
1999	F reduced to below F_{pa}		<9.7 ⁵		11.8	4.3	4.2
2000	Recovery plan, 60% reduction in F		<4.2		7.48	2.8 ⁴	3.0
2001	Lowest possible F, recovery plan		-		3.7	2.5	2.3
2002	Recovery plan or lowest possible F		-		4.6	2.0	2.1
2003	Closure		-		1.81	1.3	n/a ⁷
2004		Zero catch	⁶	0	0.85	0.6	n/a
2005		Zero catch	⁶		0.72	0.5	n/a
2006		Zero catch	⁶		0.613	0.5	n/a
2007		Zero catch	⁶	0	0.49	0.5	n/a
2008		Zero catch	⁶	0	0.402	0.4	n/a
2009		Zero catch	⁶	0	0.302		
2010		Zero catch	⁶	0			

Weights in '000 t.

¹TAC is for the whole of Subdivision Vb₁ and Subareas VI, XII, and XIV.

²Not including misreporting.

³Including ICES estimates of misreporting.

⁴Incomplete data.

⁵For Division VIa only.

⁶Single-stock boundaries and the exploitation of this stock should be conducted in the context of mixed fisheries protecting stocks outside safe biological limits.

⁷The assessment does not include landings and discards information after 1994 such that the assessment is effectively a survey based assessment.

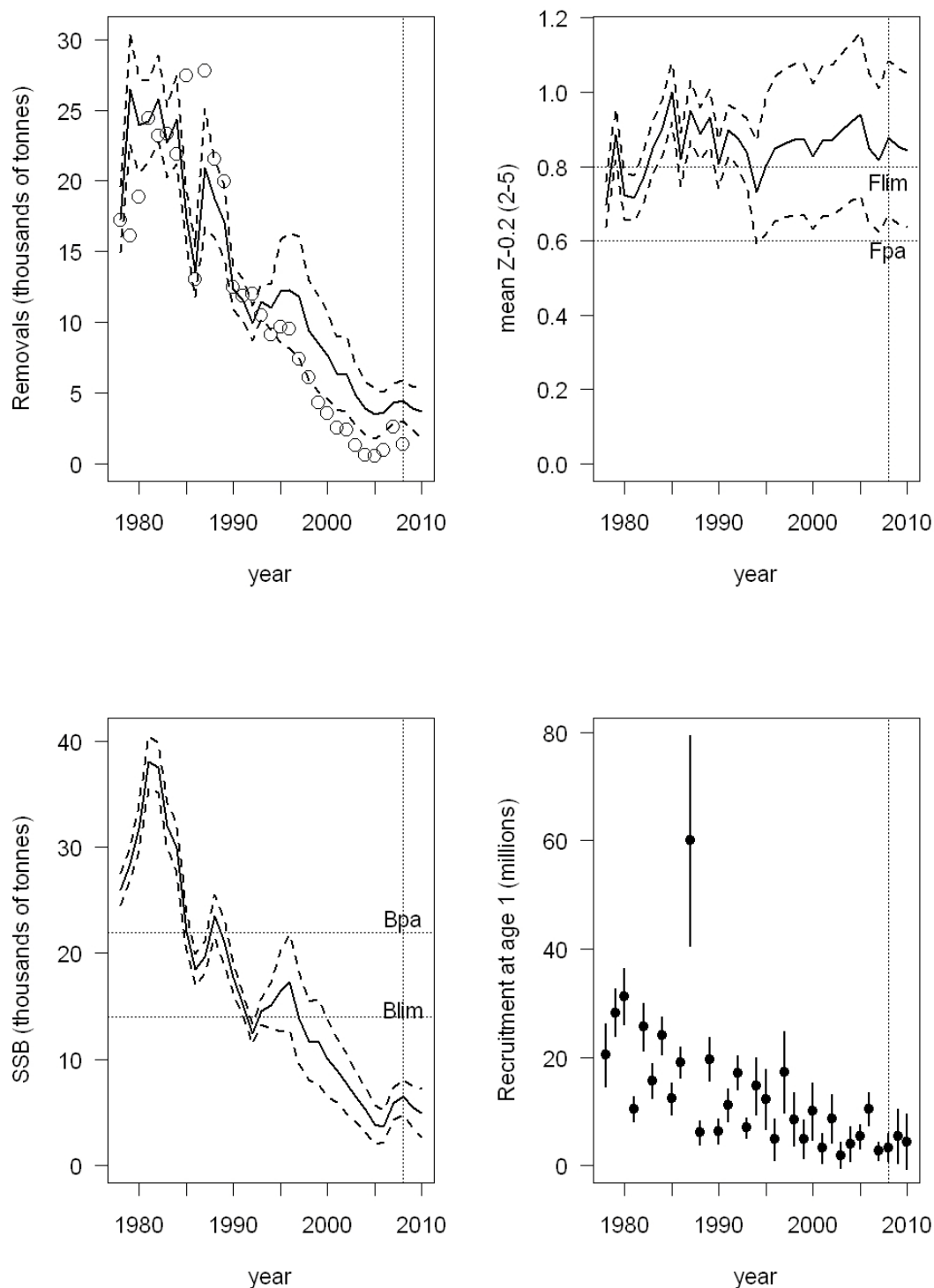


Figure 5.4.21.1 Cod in Division VIa. Summary plot of TSA final run (landings and discard data excluded from 1995 onward). In the catch figure, open circles indicate observed catches, and lines indicate estimated removals. Estimates are plotted with approximate point-wise 95% confidence bounds. The vertical line in each plot delineates the last year of the historical assessment (2008); estimates to the right of these lines are TSA-based forecasts using *status quo* removal.

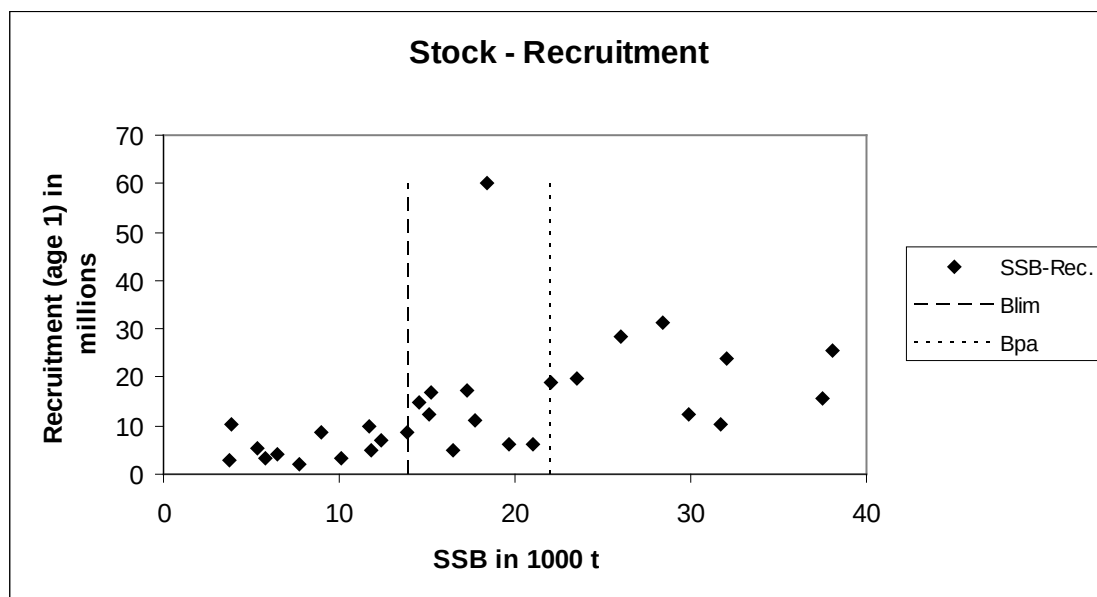


Figure 5.4.21.2 Cod in Division VIa. Stock and recruitment relationship.

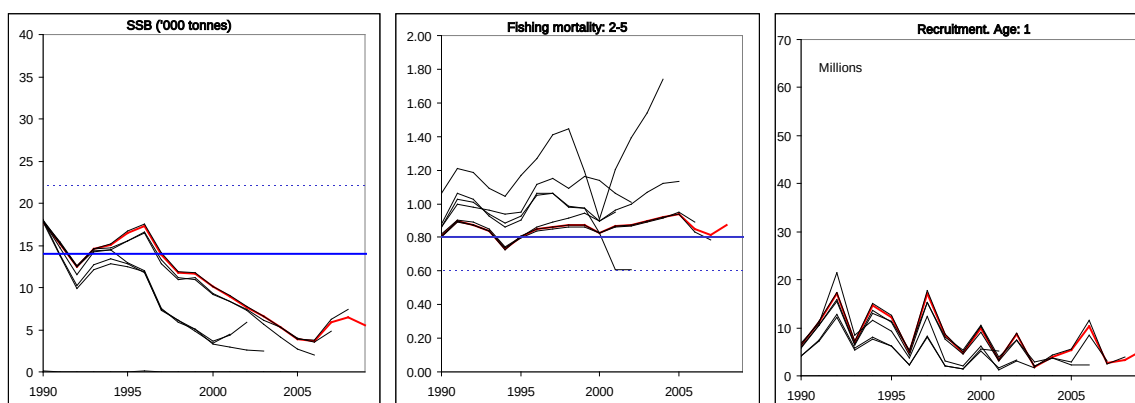


Figure 5.4.21.3 Cod in Division VIa. Comparison of current assessment with previous assessments. Mortality estimates for runs terminating in 2003 onwards are considered those for 'Z-0.2', i.e. total mortality from removals over and above $M=0.2$.

Table 5.4.21.2 Cod in Division VIa. Official landings (tonnes).

Country	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Belgium	48	88	33	44	28	-	6	-	22	1	2	+	11	1	+	+	2	+
Denmark	-	-	4	1	3	2	2	3	2	+	4	2	-	-	+	-	-	-
Faroe Islands	-	-	-	11	26	-	-	-	-	-	-	-	-	-	-	-	-	-
France	7,411	5,096	5,044	7,669	3,640	2,220	2,503	1,957	3,047	2,488	2,533	2,253	956	714*	842*	236	391	208
Germany	66	53	12	25	281	586	60	5	94	100	18	63	5	6	8	6	4	+
Ireland	2,564	1,704	2,442	2,551	1,642	1,200	761	761	645	825	1,054	1,286	708	478	223	357	319	210
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-	-	-
Norway	204	174	77	186	207	150	40	171	72	51	61	137	36	36	79	114*	40*	88
Spain	28	-	-	-	85	-	-	-	-	-	16	+	6	42	45	14	3	11
UK (E., W., N.I.)	260	160	444	230	278	230	511	577	524	419	450	457	779	474	381	280	138	195
UK (Scotland)	8,032	4,251	11,143	8,465	9,236	7,389	6,751	5,543	6,069	5,247	5,522	5,382	4,489	3,919	2,711	2,057	1,544	1,519
UK																		
Total landings	18,613	11,526	19,199	19,182	15,426	11,777	10,634	9,017	10,475	9,131	9,660	9,580	6,992	5,671	4,289	2,767	2,439	2,231

Country	2003	2004	2005	2006	2007	2008*
Belgium						
Denmark						
Faroe Islands		2	0	0.8	12	1
France	172	91	107	100.7	92	79.91
Germany	+			2	2	1
Ireland	120	34	27.9	18	70	58.2
Netherlands	-					
Norway	45	10	17	30	30	65
Spain	3					
UK (E., W., N.I.)	79	46	25		21	
UK (Scotland)	879	413	243		260	
UK				332.1		231.4
Total landings	1,298	596	419.9	483.6	487	435.51

* Preliminary

Table 5.4.21.3

Cod in Division VIa (West of Scotland). Summary of stock assessment (weights in tonnes).). Total removals (TSA) are the estimated total removals in excess of removals due to the assumed natural mortality rate. Mean Z-0.2 are the estimated mortality corresponding to total removals.

Year	Recruitment Age 1 thousands	SSB tonnes	Total removals (TSA) tonnes	Mean Z-0.2 Ages 2-5
1978	20383.4	26012	17264.1	0.698
1979	28247.5	28437	26503.8	0.886
1980	31248.5	31760	23905.6	0.722
1981	10473.1	38075	24228.4	0.714
1982	25658.8	37467	25819.8	0.772
1983	15570.9	32055	22720	0.849
1984	24015.1	29934	24317.2	0.904
1985	12342.6	22085	17356.4	1.000
1986	19047.8	18457	13585.1	0.819
1987	59990	19679	20934	0.951
1988	6059	23508	18696	0.888
1989	19595	21036	17075.7	0.932
1990	6338	17745	12352	0.807
1991	11087	15208	11610	0.897
1992	17081.6	12426	9919.6	0.875
1993	6990	14544	11464	0.838
1994	14673	15068	11062	0.731
1995	12270	16474	12183	0.805
1996	4858	17275	12242	0.848
1997	17184	13856	11779	0.862
1998	8560	11765	9425	0.873
1999	4834	11663	8476	0.871
2000	10014	10118	7667	0.828
2001	3234	8979	6405	0.868
2002	8673	7672	6305	0.871
2003	1866	6531	4895	0.895
2004	3968	5306	3914	0.918
2005	5340	3854	3505	0.939
2006	10397	3694	3640	0.848
2007	2719	5836	4301	0.817
2008	3314	6488	4428	0.876
2009	5435	5484		
Average	13483	16828	13161	0.852

5.4.21 Annex

The European Commission has enacted a Council Regulation ((EC) No. 1342/2008) which establishes measures for the recovery and long term management of cod stocks. The stated objective of the plan is to ensure the sustainable exploitation of the cod stocks on the basis of maximum sustainable yield while maintaining a fishing mortality of 0.4. Articles 7 – 9, describing aspects of the plan relevant for west of Scotland cod, are reproduced below:

Article 7

Procedure for setting TACs for cod stocks in the Kattegat the west of Scotland and the Irish Sea

1. Each year, the Council shall decide on the TAC for the following year for each of the cod stocks in the Kattegat, the west of Scotland and the Irish Sea. The TAC shall be calculated by deducting the following quantities from the total removals of cod that are forecast by STECF as corresponding to the fishing mortality rates referred to in paragraphs 2 and 3: (a) a quantity of fish equivalent to the expected discards of cod from the stock concerned; (b) as appropriate a quantity corresponding to other sources of cod mortality caused by fishing to be fixed on the basis of a proposal from the Commission.

2. The TAC shall, based on the advice of STECF, satisfy all of the following conditions: (a) if the size of the stock on 1 January of the year of application of the TAC is predicted by STECF to be below the minimum spawning biomass level established in Article 6, the fishing mortality rate shall be reduced by 25 % in the year of application of the TAC as compared with the fishing mortality rate in the previous year; (b) if the size of the stock on 1 January of the year of application of the TAC is predicted by STECF to be below the precautionary spawning biomass level set out in Article 6 and above or equal to the minimum spawning biomass level established in Article 6, the fishing mortality rate shall be reduced by 15 % in the year of application of the TAC as compared with the fishing mortality rate in the previous year; and (c) if the size of the stock on 1 January of the year of application of the TAC is predicted by STECF to be above or equal to the precautionary spawning biomass level set out in Article 6, the fishing mortality rate shall be reduced by 10 % in the year of application of the TAC as compared with the fishing mortality rate in the previous year.

If the application of paragraph 2(b) and (c) would, based on the advice of STECF, result in a fishing mortality rate lower than the fishing mortality rate specified in Article 5(2), the Council shall set the TAC at a level resulting in a fishing mortality rate as specified in that Article.

4. When giving its advice in accordance with paragraphs 2 and 3, STECF shall assume that in the year prior to the year of application of the TAC the stock is fished with an adjustment in fishing mortality equal to the reduction in maximum allowable fishing effort that applies in that year.

5. Notwithstanding paragraph 2(a), (b) and (c) and paragraph 3, the Council shall not set the TAC at a level that is more than 20 % below or above the TAC established in the previous year.

Article 9

Procedure for setting TACs in poor data conditions

Where, due to lack of sufficiently accurate and representative information, STECF is not able to give advice allowing the Council to set the TACs in accordance with Articles 7 or 8, the Council shall decide as follows: (a) where STECF advises that the catches of cod should be reduced to the lowest possible level, the TACs shall be set according to a 25 % reduction compared to the TAC in the previous year; (b) in all other cases the TACs shall be set according to a 15 % reduction compared to the TAC in the previous year, unless STECF advises that this is not appropriate.

Article 10

Adaptation of measures

1. When the target fishing mortality rate in Article 5(2) has been reached or in the event that STECF advises that this target, or the minimum and precautionary spawning biomass levels in Article 6 or the levels of fishing mortality rates given in Article 7(2) are no longer appropriate in order to maintain a low risk of stock depletion and a maximum sustainable yield, the Council shall decide on new values for these levels.

2. In the event that STECF advises that any of the cod stocks is failing to recover properly, the Council shall take a decision which: (a) sets the TAC for the relevant stock at a level lower than that provided for in Articles 7, 8 and 9; (b) sets the maximum allowable fishing effort at a level lower than that provided for in Article 12; (c) establishes associated conditions as appropriate.