2.3 Faroe Bank Cod

2.3.1 Trends in landings and effort

Total nominal landings of the Faroe Bank cod from 1986 to 2001 as officially reported to ICES are given in Table 2.3.1.1 and since 1965 in Figure 2.3.1.1. Landings have been highly irregular from 1965 to the mid 1980s, reflecting the opportunistic nature of the fishery on the Bank, with peak landings exceeding slightly 5 000 t in 1973. The evolution of landings has been smoother since 1987, declining from about 3 500 t in 1987 to only 330 t in 1992 before increasing to 3 600 t in 1997. In 2000, 1 250t were reported from the Faroe Bank. Most of the Faroese catch has been taken by pair trawlers and longliners (Table 2.3.1.2).

The decreasing trend in the cod landings from Faroe Bank lead ACFM in 1990 to advise the Faroese authorities to close the Bank to all fishing. This advice was followed for depths shallower than 200 meters. In 1992 and 1993 longliners and jiggers were allowed to participate in an experimental fishery inside the 200 meter depth contour. For the quota year 1 September 1995 to 31 August 1996 a fixed quota of 1 050 t was set. The new management regime with fishing days was introduced on 1 June 1996 allowing longliners and jiggers to fish inside the 200 m contour. The trawlers are allowed to fish outside the 200 contour.

2.3.2 Stock assessment

Biological samples have been taken from commercial landings since 1974 (the 2001 sampling intensity is shown in the text table below) and from the groundfish survey since 1983. In 2000, an attempt was made to assess the stock using XSA with catch at age for 1992-1999, using the spring groundfish survey as a tuning series (1995-1999) but the WG and ACFM concluded that it could only be taken as indicative due to scarce catch-at-age data. No attempt was made to update the XSA this year given the poor sampling for age composition particularly for trawl landings. The Working Group considered it unwise to calculate an indicative XSA that could be misleading given the poor sampling of an important gear sector.

Sampling from commercial fleets in 2001.

Table 2.3.2.1. Samples of lengths, otoliths, and individual weights of Faroe Bank cod in 2001.

Fleet	Size	Samples	Length	Otoliths	Weights
Longliners	<100 GRT	2	405	60	0
Longliners	>100 GRT	20	3,891	58	59
Jiggers		2	347	120	120
Sing. trawlers	<400 HP	0	0	0	0
Sing. trawlers	400-1000 HP	0	0	0	0
Sing. trawlers	>1000 HP	0	0	0	0
Pair trawlers	<1000 HP	1	251	0	0
Total		25	4,836	238	179

The Faroese groundfish surveys cover the Faroe Bank and cod is mainly taken within the 200 m depth contour. The catches of cod per trawl hour in depths shallower than 200 meter are shown in Figure 2.3.2.1. The CPUE was low during 1988 to 1995, varying between 246 and 637 kg/tow since 1996.

The length distributions in the 1983,2002 surveys illustrated in Figure 2.3.2.2 show substantially higher numbers in 1996-1999 compared to previous years. They also show, that the 1996 year class is extremely weak, since no fish in the size range 40-65 cm in 1998 (2 years old) are observed. In 1999 and especially in 2001 the proportion of small fish is large compared to other years, indicating good recruitment
Figure 2.3.2.3 shows a positive correlation between both the survey index and the landings in the same year. The relatively high survey index in the spring of 2002 suggests that landings in 2002 could be in the order of 2000 tons or more. These data were used to calculate and exploitation ratio (Figure 2.3.2.4), used

as a proxy to relative changes in fishing mortality. The results suggest that fishing mortality has decreased over time and is now close to the lowest observed.

2.3.2.1 Comment on the assessment

An XSA was attempted in the 2000 assessment but not in the current one. The NWWG concludes that the poor sampling for age composition, particularly for the trawler landings whose catch is not separated into Faroe Bank or Faroe Plateau during the same trips. Therefore, XSA is not considered useful until reliable coverage of the total catch at age can be obtained. No XSA was attempted in 2002

2.3.3 Reference points

There are no analytical basis to suggest reference points based on XSA or general production analysis.

2.3.4 Management considerations

The landing estimates are uncertain because since 1996 vessels are allowed to fish both on the Plateau and on Faroe Bank during the same trip, rendering landings from both areas uncertain. Given the relative size of the two fisheries, this is a bigger problem for Faroe Bank cod than for Faroe Plateau cod, but the magnitude remains unquantified for both. The ability to provide advice depends on the reliability of input data. If the cod landings from Faroe Bank are not known, it is difficult to provide advice on landings. If the fishery management agency intends to manage the two fisheries to protect the productive capacity of each individual unit, then it is necessary to regulate the catch removed from each stock. Simple measures should make it possible to identify if the catch is originating from the Bank or from the Plateau e.g. by storing in different section of the hold.

Table 2.3.1.1. Faroe Bank (sub-division Vb2) COD. Nominal catches (tonnes) by countries 1986-2001 as officially reported to ICES. From 1992 the catches by Faroe Islands and Norway are used in the assessment.

Table 2.3.1.1. Faroe Bank (Sub-division Vb2) COD. Nominal catches (tonnes) by countries, 1986-2000, as officially reported to ICES.

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Faroe Islands	1,836	3,409	2,960	1,270	289	297	122	264	717	561	2,051	3,459	3,092
Norway	6	23	94	128	72	38	32	2	8	40	55	135 *	147
UK (E/W/NI)	-	-	-	-	-	-	+	1	1	-	- [2]	- [2]	-
UK (Scotland) [1]	63	47	37	14	205	90	176	118	227	551	382	277	265
United Kingdom													
Total	1,905	3,479	3,091	1,412	566	425	330	385	953	1,152	2,488	3,871	3,504
Used in assessment					361	335	154	266	725	601	2,106	3,594	3,239

	1999	2000	2,001
Faroe Islands	1,001	1,194	1,613 *
Norway	88 *	49	200 *
UK (E/W/NI)	- [2]	[2]	
UK (Scotland)	210		
United Kingdom		- [2]	
Total	1,299	1,243	1,813
Used in assessment	1,089	1,243	1,813

*) Preliminary.
1) Includes Vb1
2) Included in Vb1

Table 2.3.1.2. Faroe Bank (sub-division Vb2) COD. Landings of Faroese fleets (in percents) of total Faroese catch (gutted weight)

.

Year	Open boat	LL<100	ST<400	Gillnet	Jiggers	ST<1000	ST>1000	PT<1000	PT>1000	LL>100	Incl.trwl	Others	Total, gut.w.
1992	0.0	8.0	0.0	0.0	16.0	7.0	7.0	11.0	40.0	11.0	0.0	0.0	100
1993	0.0	9.3	16.9	0.0	4.6	6.3	0.0	5.5	26.6	30.4	0.0	1.3	237
1994	0.5	8.8	31.2	2.6	5.1	8.1	6.4	2.8	20.0	12.6	1.6	0.5	645
1995	1.0	3.6	3.6	0.4	23.0	0.2	9.5	11.1	16.0	31.5	0.0	0.0	505
1996	2.3	1.2	3.2	0.1	24.3	5.0	1.6	23.9	36.7	1.5	0.0	0.1	1846
1997	0.4	1.9	0.4	1.5	11.4	4.5	3.4	16.9	38.4	21.2	0.0	0.0	3101
1998	0.1	3.8	0.5	1.3	5.7	3.1	10.1	12.8	32.4	29.8	0.3	0.0	2783
1999	0.4	10.5	0.1	1.7	17.9	1.8	3.0	0.1	0.9	63.6	0.0	0.1	901
2000	0.3	5.9	0.3	0.0	1.3	0.0	9.3	17.7	51.2	14.0	0.0	0.0	1062
2001	5.9	13.2	3.3	0.7	6.9	4.1	13.2	18	38.6	39.2	0.3	0	1453

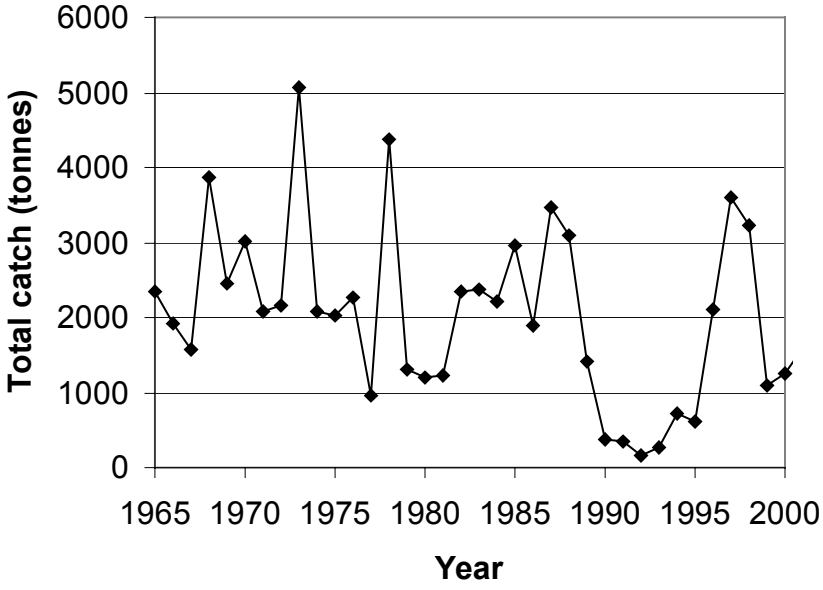
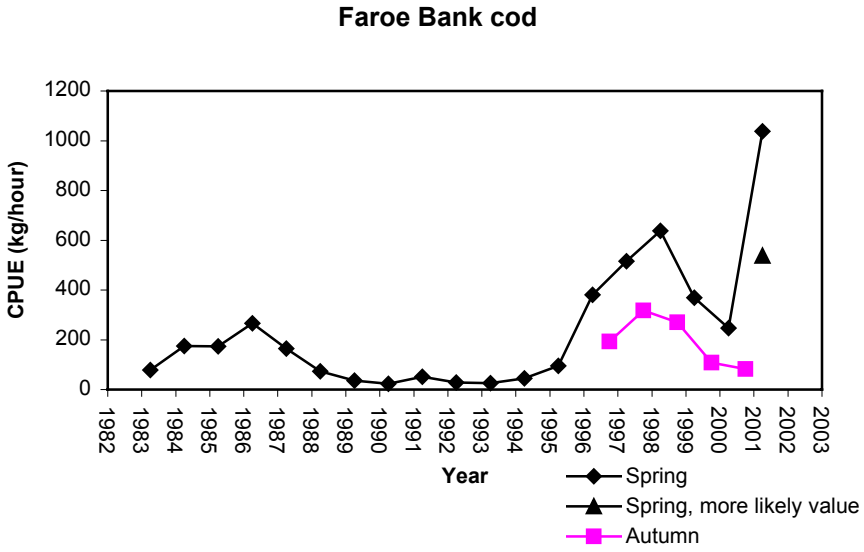


Figure 2.3.1.1. Faroe Bank (sub-division Vb2) COD. Reported landings 1965-2001. From 1992 only catches from Faroese and Norwegian vessels is considered to be taken on Faroe Bank.

Figure 2.3.2.1. Faroe Bank (sub-division Vb2) COD. Catch per unit of effort in the spring groundfish survey and autumn groundfish survey. If one large haul (14 tonnes) is replaced by 4 tonnes (more typical for that particular station) the CPUE drops from about 1000 kg/hour to about 500 kg/hour.



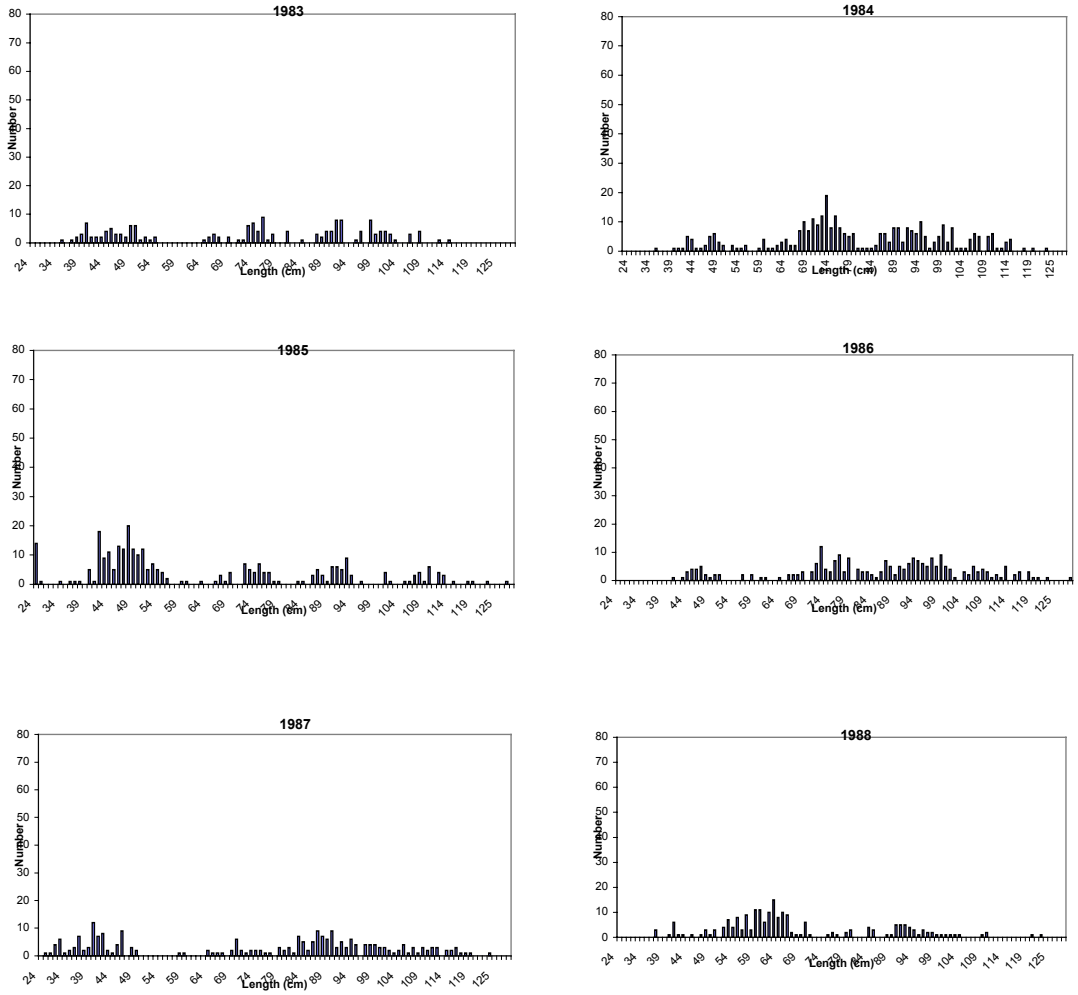


Figure 2.3.2.2. Faroe Bank (sub-division Vb2) COD. Length distributions in the spring survey 1983-1999 and 2002.

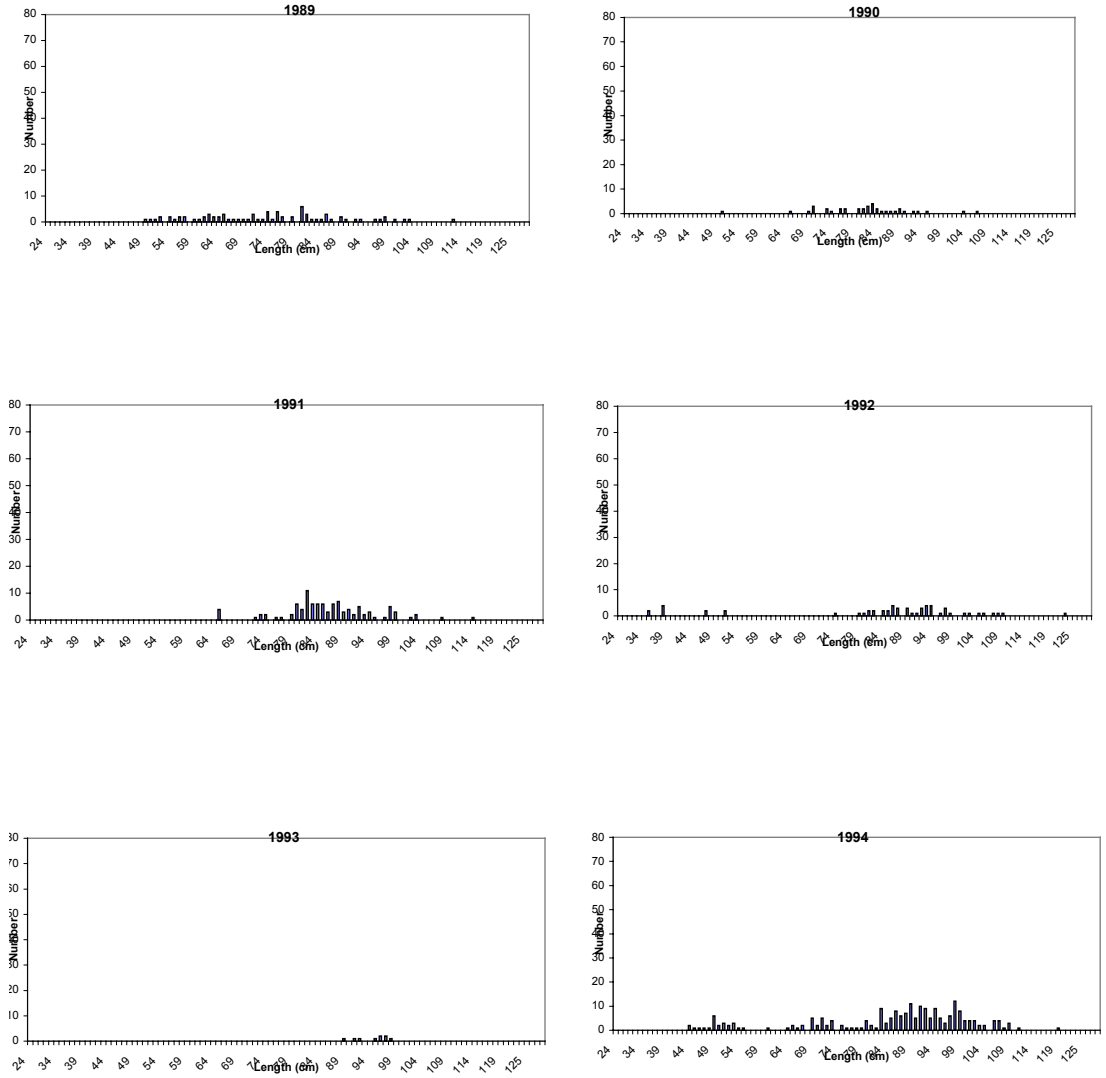


Figure 2.3.2.2 (Continued)

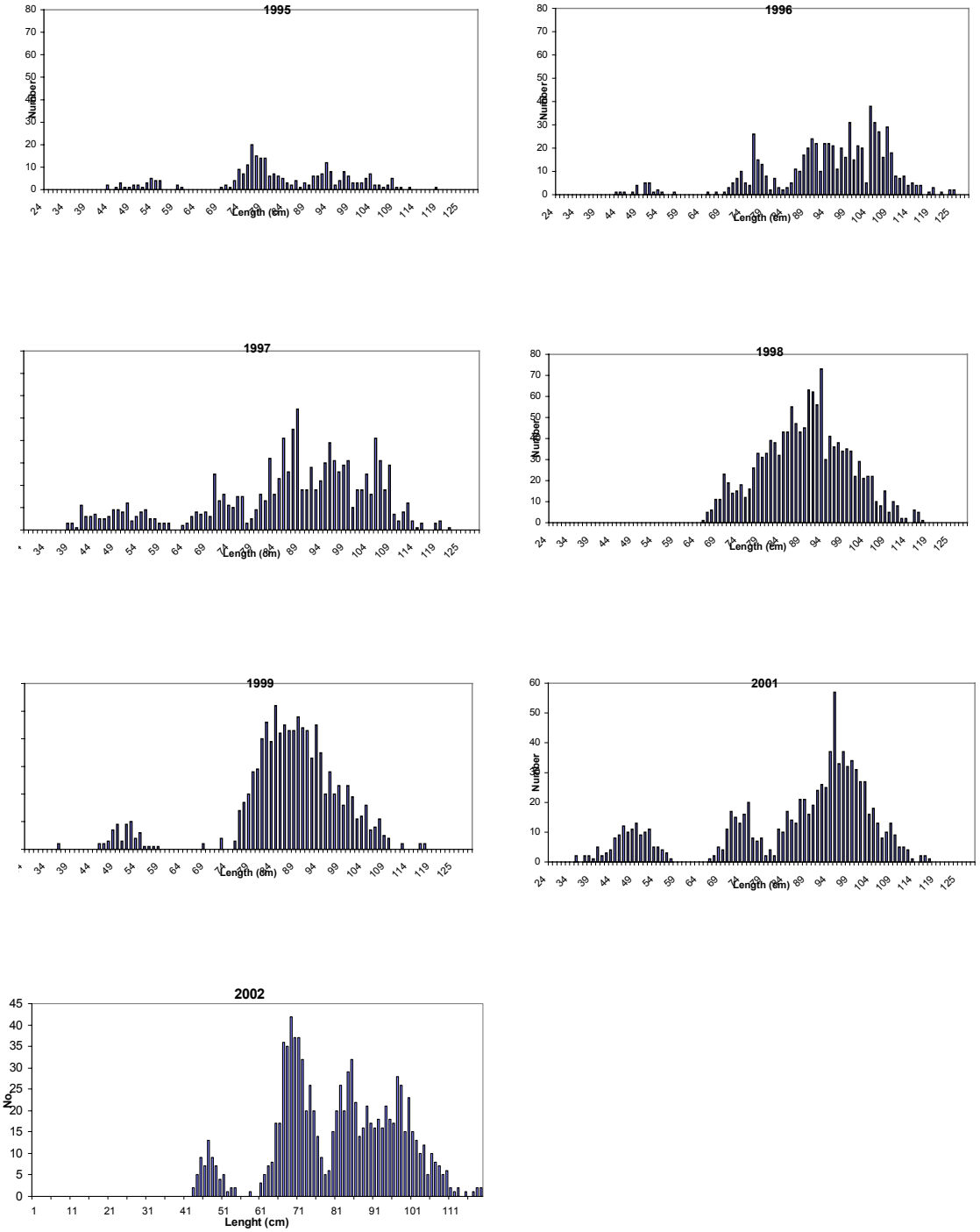
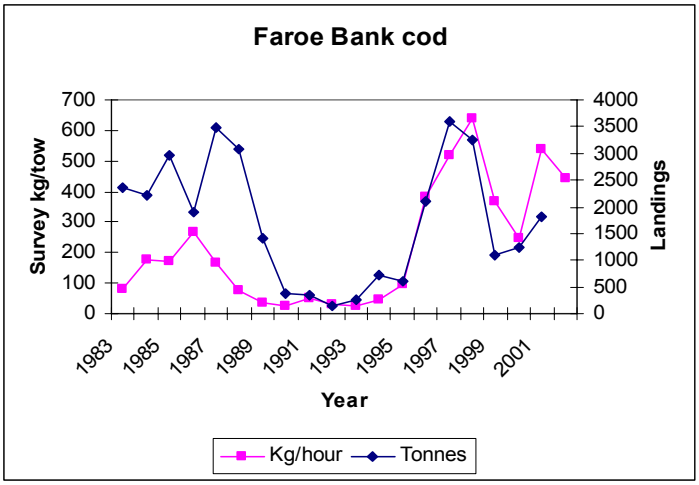


Figure2.3.2.2(Continue)

Figure 2.3.2.3. Faroe Bank (Sub-division Vb2) COD.CPUE in spring survey(2002) and landings (2001)



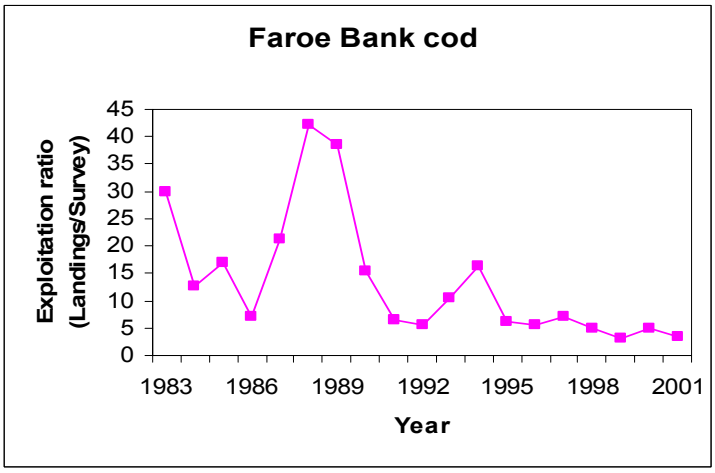


Figure 2.3.2.4. Faroe Bank (Sub-division Vb2) COD.Explotation ratio