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Analysis of Cod Stocks in NAFO Div. 2GH

by

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Abstract

Catches from this stock have ranged from 94,000 t in 1966 to 300 t in 1973. Since the introduction of a TAC in 1974 (20,000 t) this level has not been exceeded. The 1973-75 year-classes were dominant in the commercial catch in 1983, as has been previously observed. Recent management advice has indicated that fishing mortalities were below the $F_{0.1}$ level.

Résumé

Les prises capturées à même ce stock sont passées de 94 000 t en 1966 à 300 t en 1973. Depuis l'adoption du TPA de 20 000 t en 1974, la quantité des prises n'a pas dépassé ce niveau. Comme on l'avait déjà remarqué, les classes d'âge de 1973 et 1975 prédominaient dans les prises commerciales de 1983. Un récent avis de gestion indiquait que les mortalités dues à la pêche étaient inférieures à $F_{0,1}$.

Catches from this stock have ranged from 94,000 t in 1966 to 300 t in 1973 (Fig. 1). The TAC has been maintained at 20,000 t since its introduction in 1974. Except for 1982, catches have been less than half this level, as indicated below:

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
TAC(000't)	20	20	20	20	20	20	20	20	20	20
Nom. catch	7	6	4	5	2	3	4	14 ^a	2 ^a	

^aPreliminary

Commercial catches by country and month are shown in Table 1 and the sampling coverage is indicated in Table 2 for Div. 2H. No catches were reported from Div. 2G. Using these data the catch at age, average length at age, and average weight at age were estimated for 1983 (Table 3). The percentage discrepancy between calculated catch weight and reported catch weight was 4%. Ages 8-10 dominated the catch and the 1973 year-class (age 10) appears strong as it has in previous years (Table 4). The catch at age for years 1962-71 was presented by Wells (1973) and used in a virtual population assessment. The level of sampling during 1972-77 was very low, consequently, no age distribution of catch was obtained.

Catch rates, obtained from Canadian observers on foreign vessels (Table 5), show wide fluctuations.

Recent assessments of this stock have indicated that fishing mortalities were below $F_{0.1}$ from a stock which has a MSY catch of 40,000 t. Fishing activity in this area was minimal during 1983 and less than 10% of the TAC was caught.

REFERENCE

Wells, R. 1973. Virtual population assessment of cod in ICNAF Divisions 2GH. ICNAF Res. Doc. 73/106.

Table 1. Catches (t) of cod in Div. 2GH during 1983.

Month	Can N			Poland	Norway(LL)	Den F (LL)	GDR	Total
	OT	GN	HL					
Jan.								
Feb.								
Mar.								
Apr.								
May								
June								
July	34							34
Aug.	105	36	3	11				155
Sept.	19	41			29			89
Oct.					101	115		216
Nov.				4	135	551	35	725
Dec.				44	128	394	57	623
	158	77	3	59	393	1,060	92	1,842

Table 2. Sampling of the commercial catch of cod in NAFO Div. 2H during 1983.

Div.	Gear	Qtr.	Country	No. Aged	Month	No. Meas.	Landings (t)	
							Count/No.	Total
2H	LL	3	Norway	68	Sept.	769	29	29
		4	Den F	338	Oct.	3479	115	115
					Nov.	8332	551	945
		Norway	142	Oct.	3564	101	101	
				Nov.	4907	135	263	
	OT	4	Poland	115	Dec.	772	44	59
								Other
OT,GN,HL	3	Can/N					238	
Total				663		21,823	1,842	

Table 3. Estimates of catch, average weight, and average length at age from the commercial cod fishery in NAFO Divisions 2GH in 1983.

Age	Average Weight (kg)	Average Length (cm)	Catch at age		
			Mean No X 10 ⁻³	Std. Err.	C.V.
2	0.128	25.000			0.02
3	0.547	39.620	3	0.73	0.27
4	1.013	48.608	55	3.21	0.06
5	1.504	55.239	47	5.07	0.11
6	2.053	61.033	29	6.00	0.21
7	2.386	64.115	18	5.40	0.30
8	2.707	66.893	158	14.11	0.09
9	3.152	70.199	108	12.89	0.12
10	3.784	74.324	196	13.58	0.07
11	4.278	77.620	7	3.04	0.46
12	6.730	90.241	1	0.34	0.53
13	7.625	94.000		0.06	0.71
14	8.401	97.000		0.15	1.05
15	7.625	94.000		0.04	1.02

Table 4. Catch at age for cod in Divisions 2GH from 1978-83

Age	1978	1979	1980	1981	1982	1983
2			17			
3	7		24	1	62	3
4	123	72	38	5	103	55
5	2254	207	249	23	131	47
6	1257	615	332	360	227	29
7	201	79	516	423	1207	18
8	108	7	21	906	973	158
9	117	1	2	74	2058	108
10	108	1		7	128	196
11	52	1		4	5	7
12	21	1		2	4	1
13				1	2	
14				1	2	

Table 5. Catch rates in the directed cod fishery in Div. 2H obtained by Canadian observers on foreign vessels. Number in brackets represent the amount of directed catch involved.

Country	Gear	1979	1980	1981	1982	1983
Poland	OT-7	0.58(1067)	0.15(31)	5.03(463)	0.78(35)	0.39(38)
Portugal	OT-6/7	0.51(106)	1.09(100)		1.33(224)	
FRG	OT-7		1.72(415)		2.97(3238)	
GDR	OT-7		1.55(362)	1.39(212)	1.23(245)	
Den-F	LL-4			0.44(1448)	0.57(1908)	0.75(880)

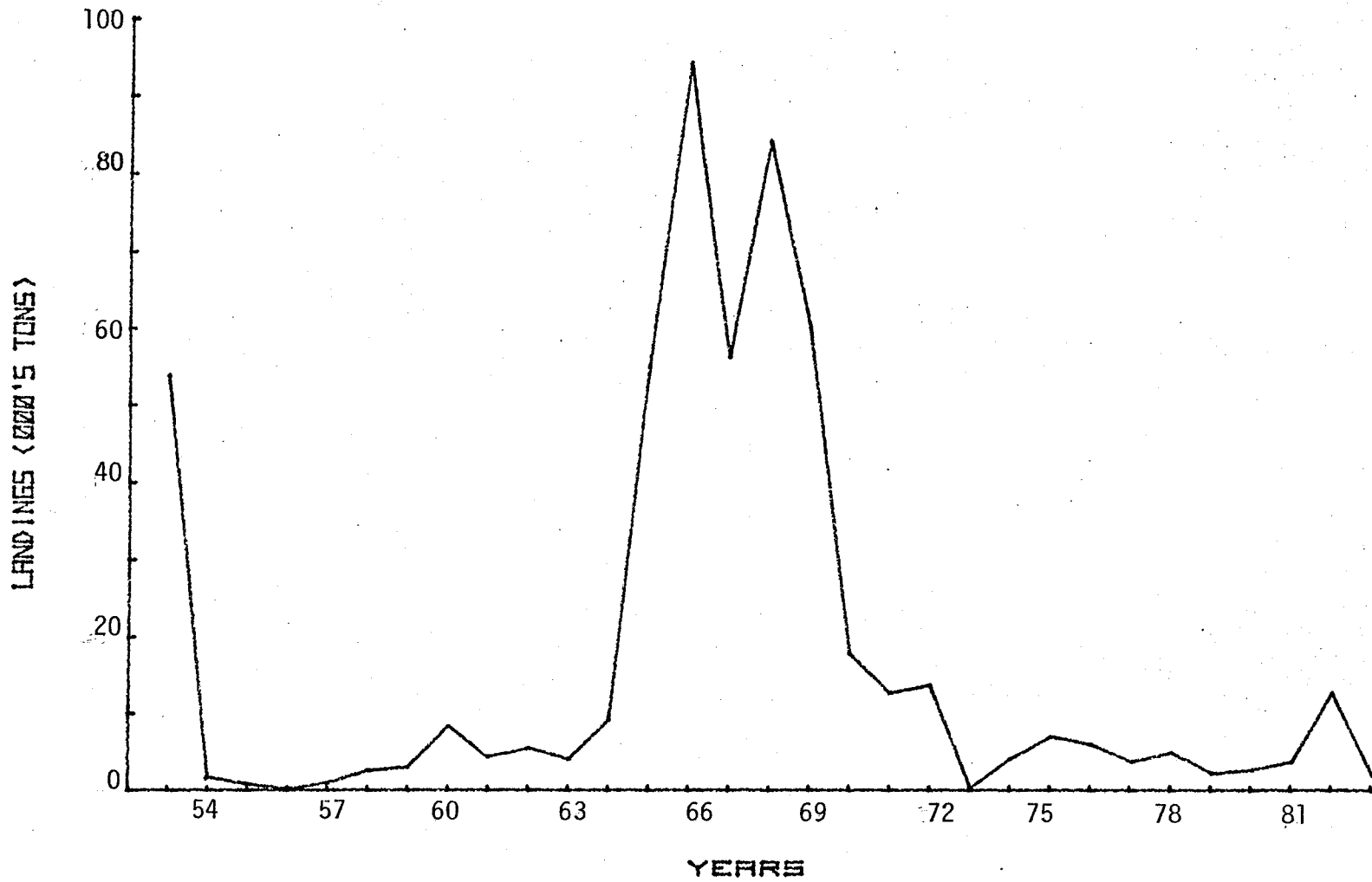


Fig. 1. Landings of cod in NAFO Divisions 2GH in the years 1953-83.