

Canadian Atlantic Fisheries  
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Report on the November-December  
1979 4T cod fishery

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Abstract

Data from the Department of Fisheries and Oceans International Observer Program was used to analyse the 1979 4T cod fishery by vessels greater than 100 ft. The observed catch rate of cod was 1267 kg/hr. This was approximately three times the catch rate in 1975, the last year that vessels greater than 100 ft. were allowed to participate in the fishery. Ninety-six percent of the cod catch in numbers were ages 4-6. Bycatch was 2.8% of the total observed catch.

Résumé

Les données recueillies dans le cadre du programme d'observateurs internationaux du ministère des Pêches et des Océans ont été utilisées dans l'analyse de la pêcherie de morue de la division 4T en 1979 par les bateaux de longueur supérieure à 100 pieds. Le taux de capture observé était de 1 267 kg de morue/h. Ce taux est approximativement le triple de celui de 1975, la dernière année dans laquelle les bateaux de plus de 100 pieds étaient autorisés à exploiter ce stock. Les morues d'âges 4-6 constituaient 96% en nombre des prises. Les prises fortuites comprenaient 2,8% des prises totales observées.

## Introduction

In 1976 vessels over 100 ft. were not allowed to fish cod in NAFO Division 4T. The fishery was reopened to vessels over 100 ft. in 1979. Information on the distribution of catch, effort and age composition of the 1979 fishery is available from the Department of Fisheries and Oceans International Observer Program. This information is presented here and it is compared to log book data obtained in the 1975 fishery. Data from only tonnage class 5 vessels with observers aboard is presented for consistency with the 1975 data.

## Results

A total of 759,129 kg of cod was taken by tonnage class 5 vessels with observers aboard which represents approximately 12% of the total 1979 4T catch. However, some set information did not include the fishing time and therefore those sets were excluded from the calculation of catch rates.

The distribution of catch, effort and C/E for 1979 is given by 10' square in Table 1. Of the sets with complete effort information 740,667 kg of cod were taken in 584.39 hrs. giving a catch rate of 1267 kg/hr. The catch rate in the fourth quarter of 1975 for tonnage class 5 vessels was approximately one-third of this at 391 kg/hr. (log book data, St. Andrews).

The spatial distribution of C/E in 1979 and 1975 are shown in figures 1 and 2 respectively. The C/E by 10' square was much higher in 1979 when the average C/E by 10' square was 1310 kg/hr. This may be compared to the mean of 433 kg/hr. in 1975. The area covered in the 1979 fishery was larger than in 1975, most notably along the Edge.

Observers collected a total of 35 cod length frequency samples and these were combined to give a total length frequency of removals by the observed vessels in 1979 (Figure 3). The 1979 4T commercial age-length key was used to obtain the age composition of the observed catch (Table 2). It was estimated that age groups 4-6 made up 96% of the observed catch by numbers.

A summary of bycatch and discards is presented in Table 3. The total catch of skate, squid, monkfish and crab was discarded. Of the cod discards 96.8% were from one vessel. The observer on that vessel reported that the cod discards were small fish which the vessel captain believed would bring only the minimum price.

The major bycatch was of flatfish which was 2.4% of the cod catch. This was followed by a 0.33% bycatch of skate. Bycatch of all other species was less than 0.1%.

Table 1. The distribution of catch, effort and C/E of cod in subarea 4T during Nov. - Dec. 1979 as recorded by observers on Canadian T.C. 5 Trawlers.

<u>10' Square</u>	<u>Catch (kg)</u>	<u>Effort (hrs)</u>	<u>C/E T.C. 5's</u>
463 612	5,000	13.25	377.4
614	2,500	5.67	440.9
464 611	10,500	7.58	1,385.2
612	6,200	5.74	1,080.1
465 610	7,272	5.58	1,303.2
611	10,500	10.99	955.2
612	12,500	6.67	1,874.1
613	6,000	3.25	1,846.2
470 605	44,798	42.40	1,056.6
610	25,368	31.14	814.6
611	12,000	8.50	1,411.8
612	1,875	3.00	625.0
471 601	4,900	3.00	1,633.3
603	3,000	6.50	461.5
604	21,155	35.41	597.4
605	32,355	32.33	1,000.8
610	25,187	16.00	1,574.2
472 601	13,900	8.92	1,558.3
602	31,000	23.50	1,319.1
603	10,525	10.33	1,018.9
604	73,284	36.02	2,034.5
605	73,793	50.99	1,447.2
610	11,456	7.08	1,618.1
473 602	5,194	6.58	789.4
603	106,909	80.59	1,326.6
604	1,880	2.41	780.1
474 603	79,838	45.75	1,745.1
604	59,028	50.81	1,161.7
605	900	3.00	300.0
475 604	23,025	18.15	1,268.6
605	18,825	3.25	5,792.3
	<u>740,667</u>	<u>584.39</u>	<u>1,267.4 kg/hr</u> <u>18,517 kg/day</u>

Table 2. Age composition of cod taken by tonnage class 5 vessels with observers aboard in the 1979 4T fishery.

Age	Removals x 10 <sup>-3</sup>
2	1
3	103
4	1505
5	2432
6	1434
7	190
8	65
9	39
10	15
11	7
12+	6

Table 3. Summary of bycatch and discards, in the Nov.-Dec. 1979 4T cod fishery, by tonnage class 5 vessels with International observers aboard.

Species	Catch (kg)		% Discard	Bycatch % directed species
	Kept	Discard		
Cod	749,606	9,523	1.3	-
Flatfish	17,306	467	2.6	2.34
Redfish	225	5	2.2	0.03
Pollock	240	20	7.7	0.04
Halibut	177	-	0	0.02
Haddock	155	-	0	0.02
Skate	-	2,472	100	0.33
Squid	-	435	100	0.02
Monkfish	-	80	100	0.01
Crab	-	511	100	0.07

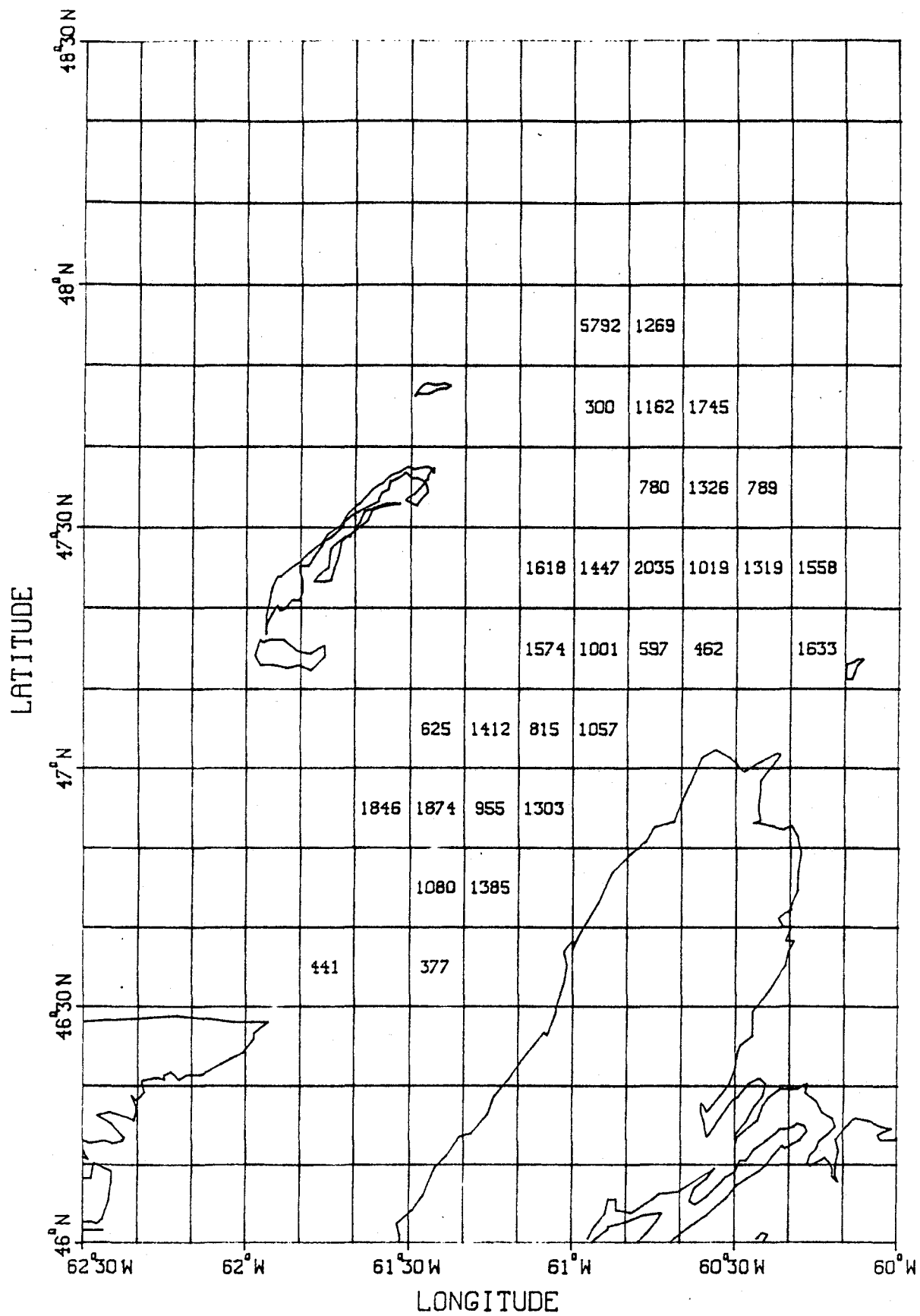


Figure 1. Cod catch rates (kg/hr) for tonnage class 5 vessels with observers in the 1979 Nov.-Dec. 4T fishery.

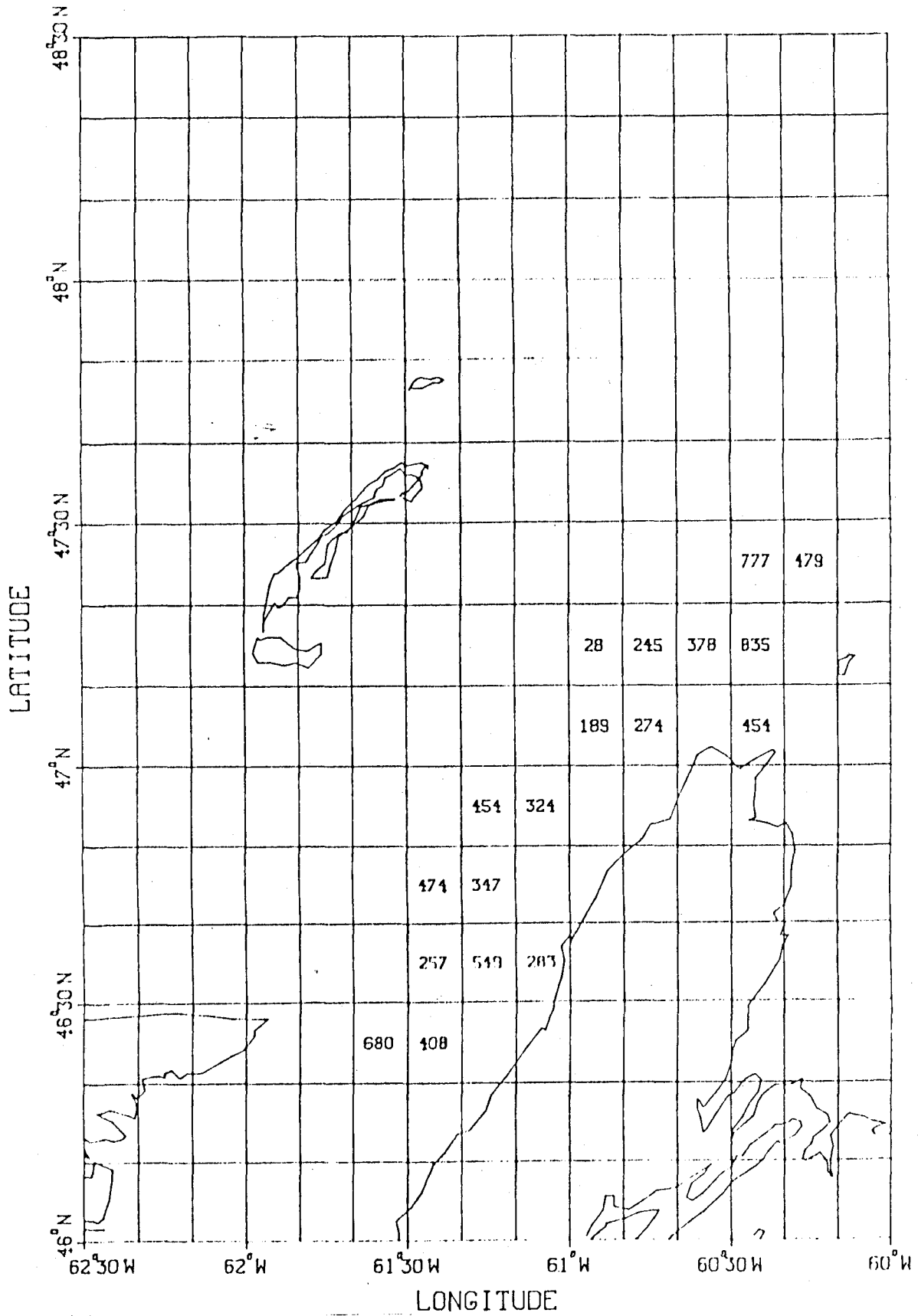


Figure 2. Cod catch rate (kg/hr) for tonnage class 5 vessels in the October-December 1975 4T fishery

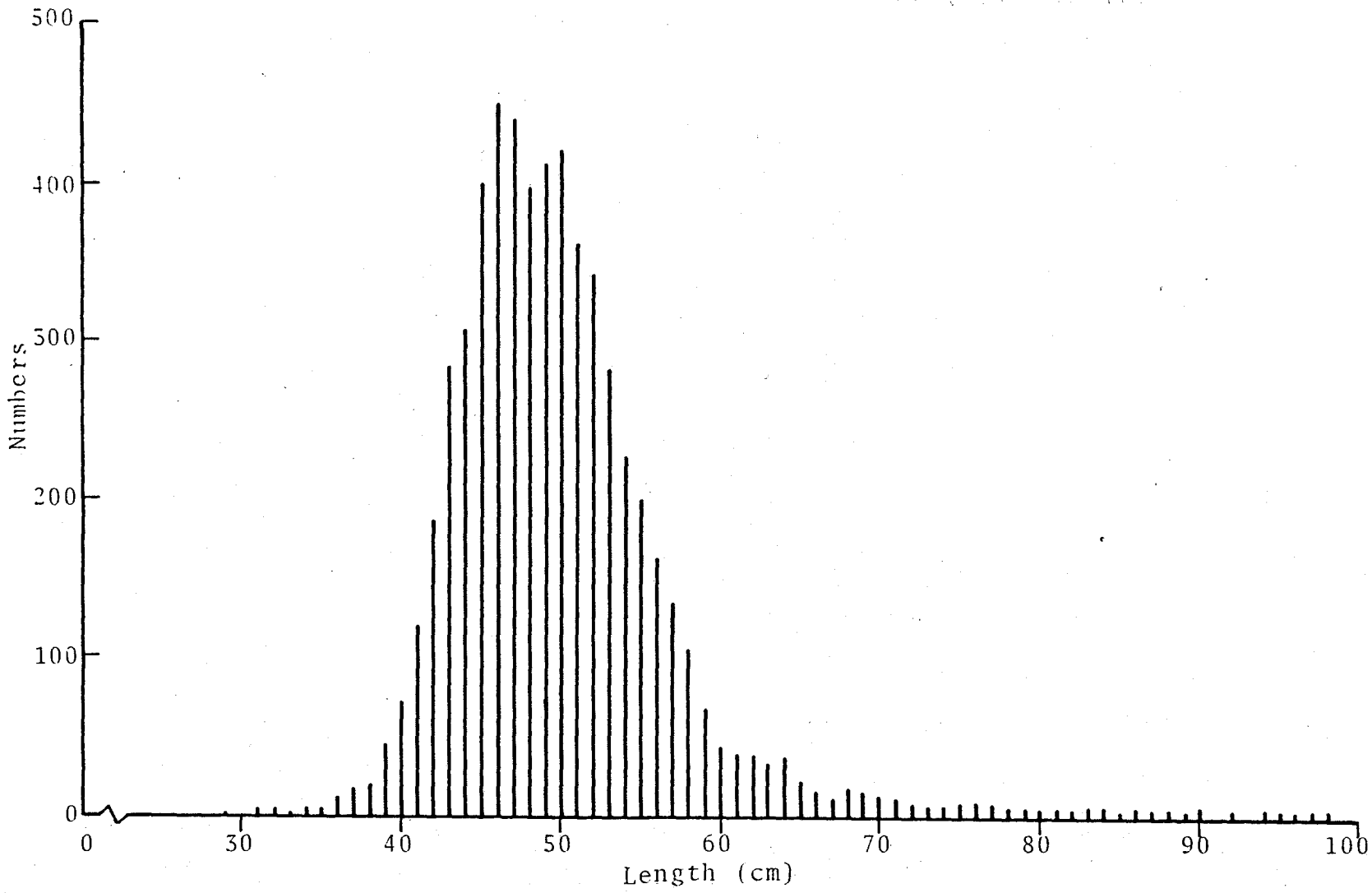


Figure 3. Cod length Frequency for Canadian Vessels T. C. 5 in Div. 4T in Nov.-Dec. 1979.