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Landings and catch per unit effort  
of pollock on the Scotian Shelf

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INTRODUCTION

At the Special Commission Meeting of January 1973 a proposal was passed for the regulation of the pollock fishery of Div. 4X and Subarea 5 by a quota of 50,000 metric tons in 1973. The following notes are relevant to a reconsideration of this proposal.

LANDINGS

Pollock landings from SA4 and 5 and Statistical Area 6 fluctuated between 36,000 and 42,000 metric tons in the 1960-65 period, declined to about 23,000 tons in 1968, then increased to 26,419 tons in 1971 (Table 1). Between 12% and 40% of the annual landings have originated from areas to which the 1973 regulation does not apply, and between 1960 and 1967 this percentage was consistently higher than 25%. The bulk of these landings came from Div. 4VW. Only one major spawning location for pollock has been found in the northwest Atlantic - that which supports the U.S. Jeffrey's Ledge winter fishery (Div. 5Y) (Steele, 1963), although other locations, of perhaps minor importance, probably exist. It is not unlikely, however, that pollock caught in Div. 4VW are part of the same stock which is found in Div. 4X and Subarea 5. Thus, it would be prudent to include Div. 4VW in the area covered by pollock quota regulations until such times as the stock relationships of these fish have been resolved.

### CATCH PER UNIT EFFORT

Catch rates of Canadian otter trawlers of 151-500 gross tons are considerably lower in Div. 4V than in Div. 4W and Div. 4X (Table 2). Catch rates in Div. 4W were higher than in Div. 4X in 1965-68, whereas the reverse was true in 1969-72. Average catch rates for the Scotian Shelf (obtained by weighting the cpe for each Division by its area) declined from 153.3 kg/hour in 1965 to 45.5 kg/hour in 1971, rising to 145.3 kg/hour in 1972. This implies that the reduced landings in 1967-71 resulted from a reduction in stock abundance. Catch rate more than tripled in 1972 over 1971, and Canadian catches increased by 54% to 18,056 tons from 11,754 tons in 1971. Sampling coverage of the fishery is poor and Canadian length-frequency samples do not, in total, indicate any substantial change in size composition of landings between 1971 and 1972. However, concentrations of small pollock were reported on the south-eastern edge of Browns Bank (Div. 4X-P) in the fall of 1972. These were fished heavily by the Canadian fleet, and a single sample from this region in November had a mean length of about 50 cm in contrast to the 70-80 cm common for this species. Thus, the higher catch rates in 1972 may imply improved recruitment to the stock. However, with substantial changes in the abundance of prime species such as cod and haddock, changes in fishing patterns are likely which would produce substantial biases in these cpe data, and caution is required in their interpretation.

### REFERENCES

- STEELE, D. H. 1963. Pollock [*Pollachius virens* (L.)] in the Bay of Fundy.  
J. Fish. Res. Bd. Canada 20: 1267-1314.

Table 1. Pollock landings by Division of Subareas 4 and 5 and for Statistical Area 6 (metric tons round).

Year	4R	4S	4T	4Vn	4Vs	4W	4X	SA4	5Y	5Ze	5Zw	SA5	Stat. Area 6	Total	Percentage outside Div. 4X + SA5
1960	22	-	67	692	811	8,354	20,132	30,078	6,545	3,834	3,834	10,397	-	40,475	25
1961	3	-	13	811	1,053	13,167	14,321	29,368	5,017	3,177	3,177	8,219	-	37,587	40
1962	2	2	18	554	738	12,045	19,624	32,983	2,560	3,576	3,576	6,151	-	39,134	34
1963	17	1	36	400	274	9,152	20,645	30,525	2,168	3,947	3,947	6,125	-	36,650	27
1964	6	62	8	337	137	12,488	19,283	32,321	1,754	7,250	7,250	9,004	-	41,325	32
1965	2	3	16	147	1,058	13,134	13,390	27,750	1,933	7,065	7,065	8,998	-	36,748	39
1966	168	-	18	226	562	11,040	12,648	24,662	953	8,846	8,846	9,799	48	34,509	35
1967	9	1	20	147	510	5,836	8,290	14,817	1,728	6,790	6,790	8,532	2	23,351	28
1968	3	8	2	256	757	5,954	10,656	17,636	1,416	3,724	82	5,222	4	22,862	31
1969	139	4	-	91	209	3,938	10,983	15,364	4,635	5,025	162	9,822	2	25,188	17
1970	35	2	2	130	519	2,952	8,194	11,834	6,281	5,157	123	11,561	418	23,813	17
1971	25	1	9	214	317	1,802	9,739	12,107	7,016	7,096	142	14,312	891	26,419	12

Table 2. Pollock : catch (kg) per hour fished by Canadian otter trawlers of 151-500 gross tons on the Scotian Shelf (means of monthly values).

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<u>Year</u>	<u>4Vn</u>	<u>4Vs</u>	<u>4W</u>	<u>4X</u>	<u>Combined</u>
1965	1.6	17.6	260.7	160.1	153.3
1966	0.6	5.3	174.2	86.3	93.3
1967	1.9	7.8	119.6	63.2	66.6
1968	0.1	8.8	93.6	70.8	60.5
1969	0.5	3.2	65.2	73.3	50.4
1970	0.4	2.0	45.8	88.6	49.1
1971	5.2	5.2	22.9	97.3	45.5
1972	0.3	94.0	111.3	233.3	145.3

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