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Offshore Lobster Fishery: The Impact of Requested Changes
in the 4X Quota System to Allow Enterprise Allocations

by

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ABSTRACT

The request for an enterprise allocation (EA) to replace the present vessel quota in the offshore lobster fishery is discussed. An EA would likely increase the percentage of the overall quota caught, but it appears unlikely that it would have a negative impact on the stock. The size frequency of lobsters has shown no change since the fishery began in 1972, suggesting the fishery has had little impact on the stock. Economics and fairness to the independent operators, and not biological consideration, should be used in assessing the desirability of an EA.

RESUME

On étudie la demande de remplacer l'actuel contingentement des navires dans la pêche au homard hauturière par une répartition par entreprise. Une telle répartition augmenterait probablement le pourcentage des prises par rapport au quota total, mais il semble peu probable que cela ait une incidence négative sur le stock. La fréquence de tailles des homards ne montre aucun changement depuis le début de la pêche en 1972, ce qui permet de croire que la pêche a eu peu d'incidence sur le stock. L'évaluation de l'opportunité d'une répartition par entreprise devrait donc se fonder sur des considérations d'ordre économique et sur le souci d'équité envers les exploitants indépendants, et non sur des considérations d'ordre biologique.

The company which presently controls four of the six Canadian offshore lobster vessels fishing 4X (Fig. 1) has requested approval for an enterprise quota allocation (EA) to replace the present individual vessel quotas.

Information was requested by the Fisheries Operations Branch on the impact of these changes on catch, levels, and the lobster stock.

The overall quota of 408 t for the six vessels fishing 4X has never been reached since instituted in 1977 (Fig. 4), though many individual vessels have easily met or exceeded the 68 t/vessel quota. The reasons for the overall quota not being reached are: some vessels have chosen to fish 5Ze for part of the year (Table 1); some vessels have inexperienced skippers and crews; mechanical failure in the old vessels presently used (average age >20 yr); and bad weather in late fall when the price of lobsters is highest and many vessels plan on filling the remainder of their quota. An EA would allow the better vessels which could reach their quota by mid summer to continue fishing longer, making it more likely the overall quota would be reached.

The biological effect of increasing the overall catch in 4X from its average of 347 t over the last 7 yr to 408 t is likely small. From 1977-1981, 4X landings remained relatively constant (Fig. 4) total effort declined slightly (Fig. 5) and CPUE (kg/trap haul) increased or remained stable (Fig. 6). Size frequency data from at-sea samples show no changes between 1972 and 1981 (Fig. 2 and 3), and sales slip data show increased numbers of 3-8 lb lobsters on SE Browns Bank in recent years (Fig. 5). The quota has no biological basis, and the fishery appears to have had little impact on the stock levels.

The possibility of effort shifting to Georges Bank (5Ze) as a result of EA is unlikely. All major lobster grounds appear occupied by the two Canadian vessels and an unknown number of U.S.A. vessels. If such a shift did occur, it would be to displace U.S.A. effort and would not likely increase overall landings from 5Ze.

In discussions of EA's, the problem of trap limits was raised. Would an EA allow two to three vessels to fish the 4,000 traps allotted the enterprise, or should the 1,000 traps/vessel limit remain? From a biological point of view the trap limit is of no consequence, since the fishery is quota regulated. In a quota-regulated fishery, effort controls in the form of trap limits only decrease the efficiency of operation and competitiveness with U.S.A. vessels which fish >2,000 traps/vessel.

CONCLUSIONS

Based on our present knowledge of the offshore stock, an EA and the probable increase in the overall catch would most likely have no significant impact on the stock. Economic factors and fairness to the independent operators which own single vessels must be the major factors in the final decision.

Table 1. Average total landings (t) of each vessel with percentage of catch in 4X and percentage of vessel quota caught.

Vessel	Average total landings 1977-83	% catch in 4X 1977-83	Average % of 4X vessel quota (68 t)
1	66.8	100	98.2
2	49.2	100	72.3
3	80.3	95.1	112.3
4	80.6	91.3	108.2
5	54.1	99.6 (1977-81) 0.0 (1982-83)	79.6
6	81.2	62.2	74.3
7	83.3	0.0 (1977-81) 100 (1982-83)	52.3 (1982-83)
8	65.8	0.0	-
9	102.9	0.0	-
Mean :	73.8	85.1	

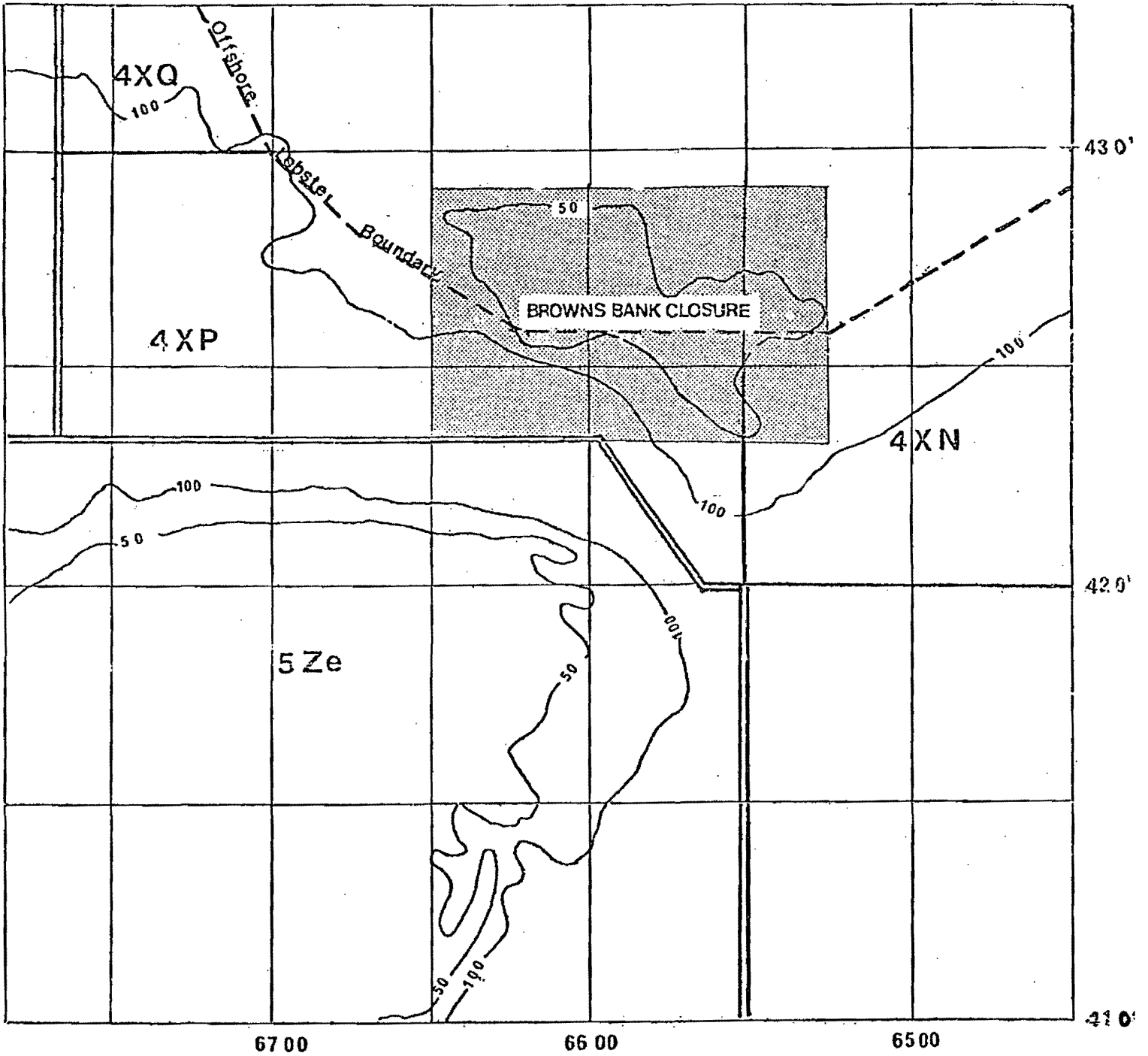


Figure 1. Offshore Lobster District A and NAFO subdivisions.

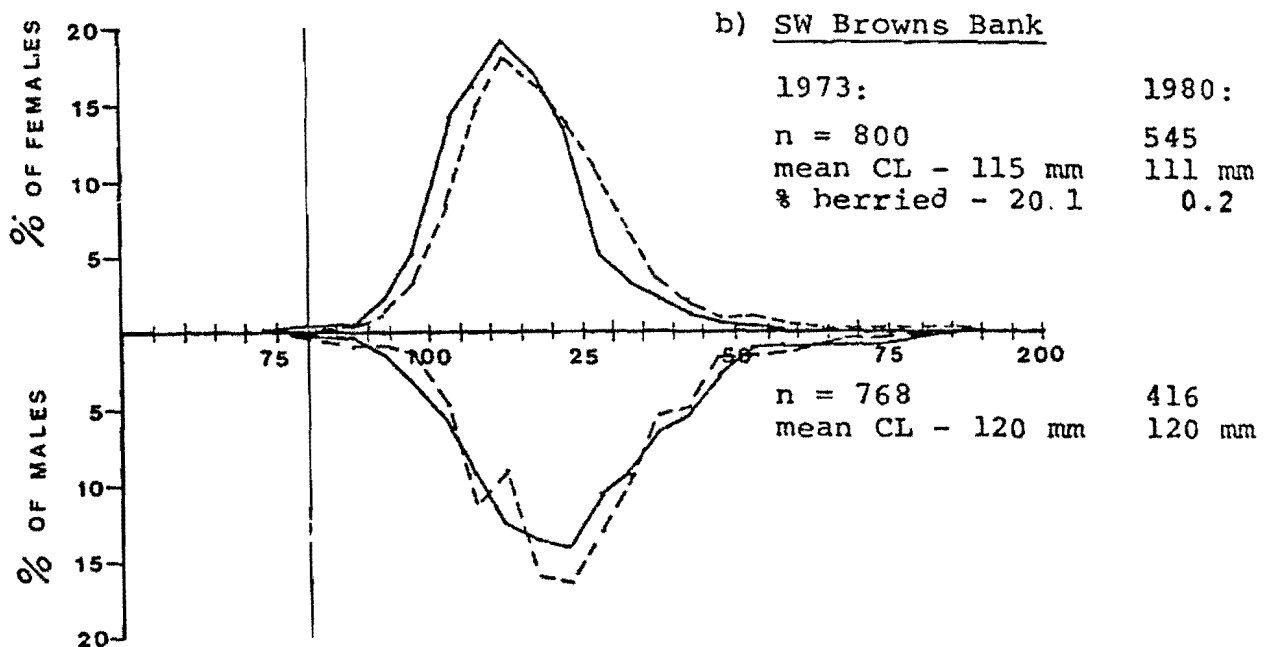
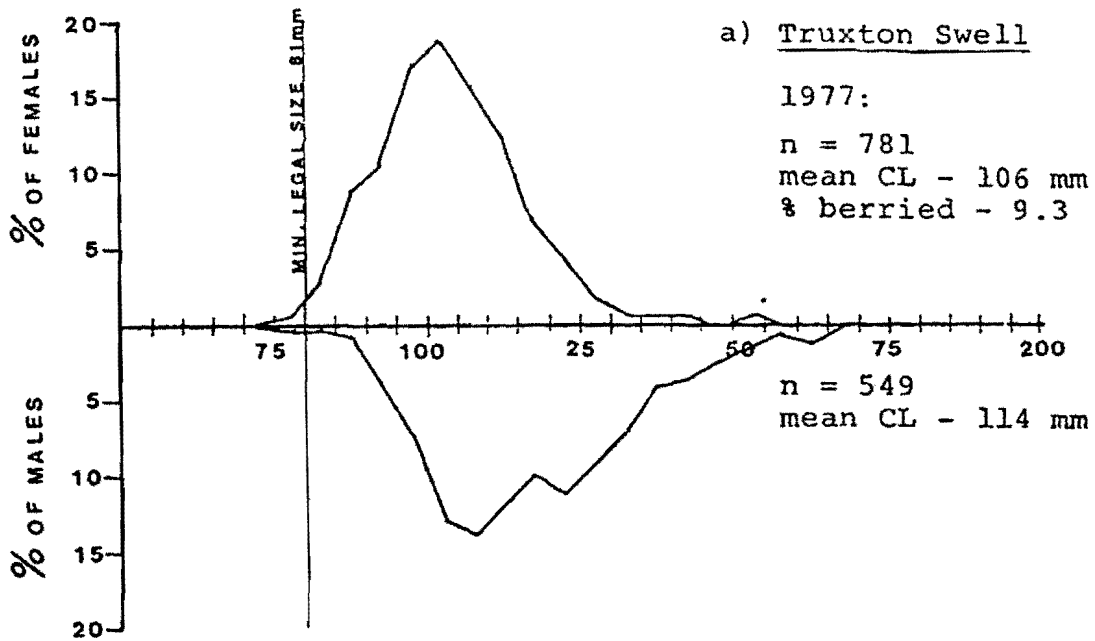


Figure 2. Size frequency distribution of trap-caught lobsters measured at sea from Canadian offshore lobster fishing vessels fishing a) Truxton Swell; b) SW Browns Bank.

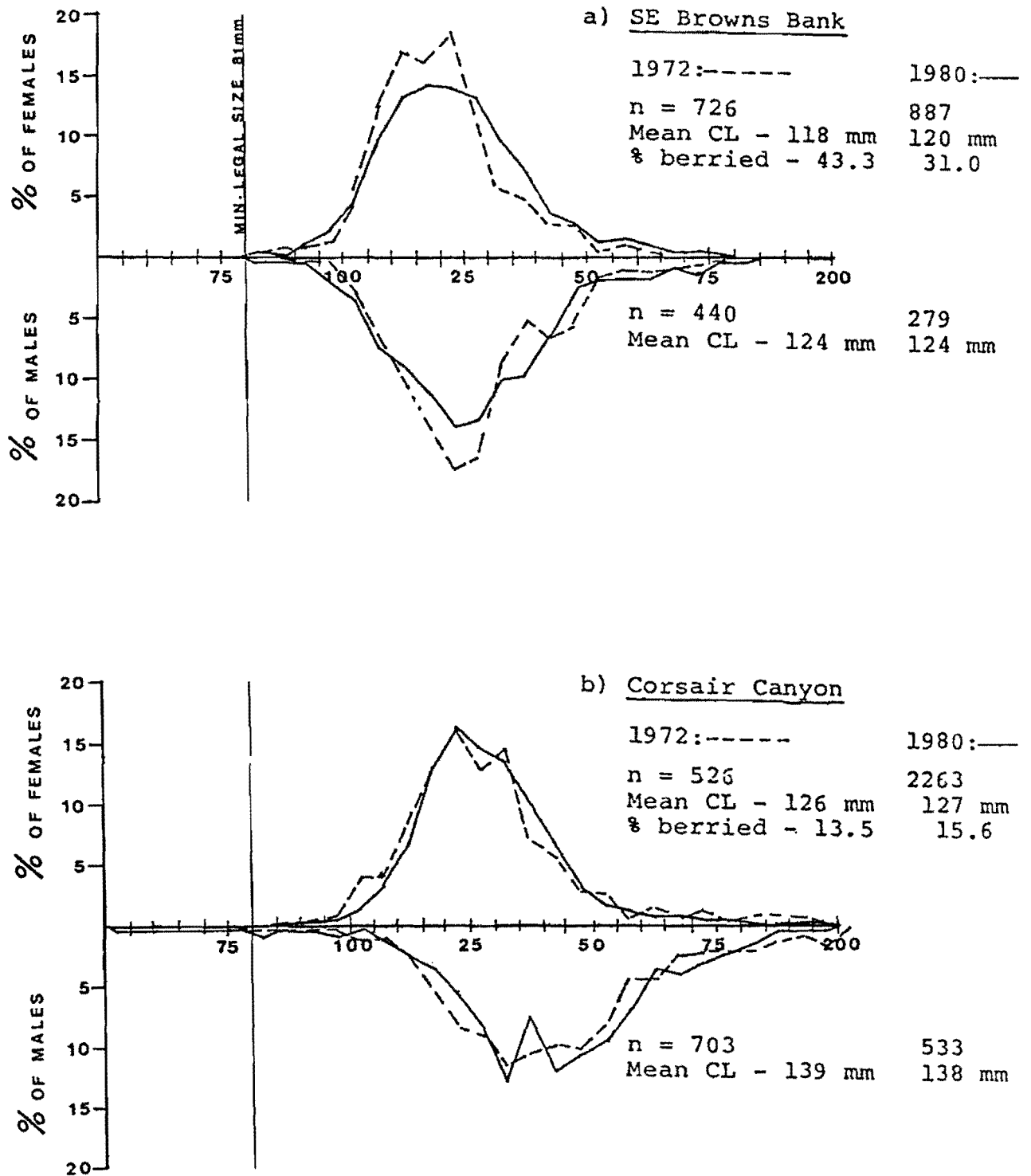


Figure 3. Size frequency distribution of trap-caught lobsters measured at sea from Canadian offshore lobster fishing vessels fishing a) SE Browns Bank; b) Corsair Canyon region of NE Georges Bank.

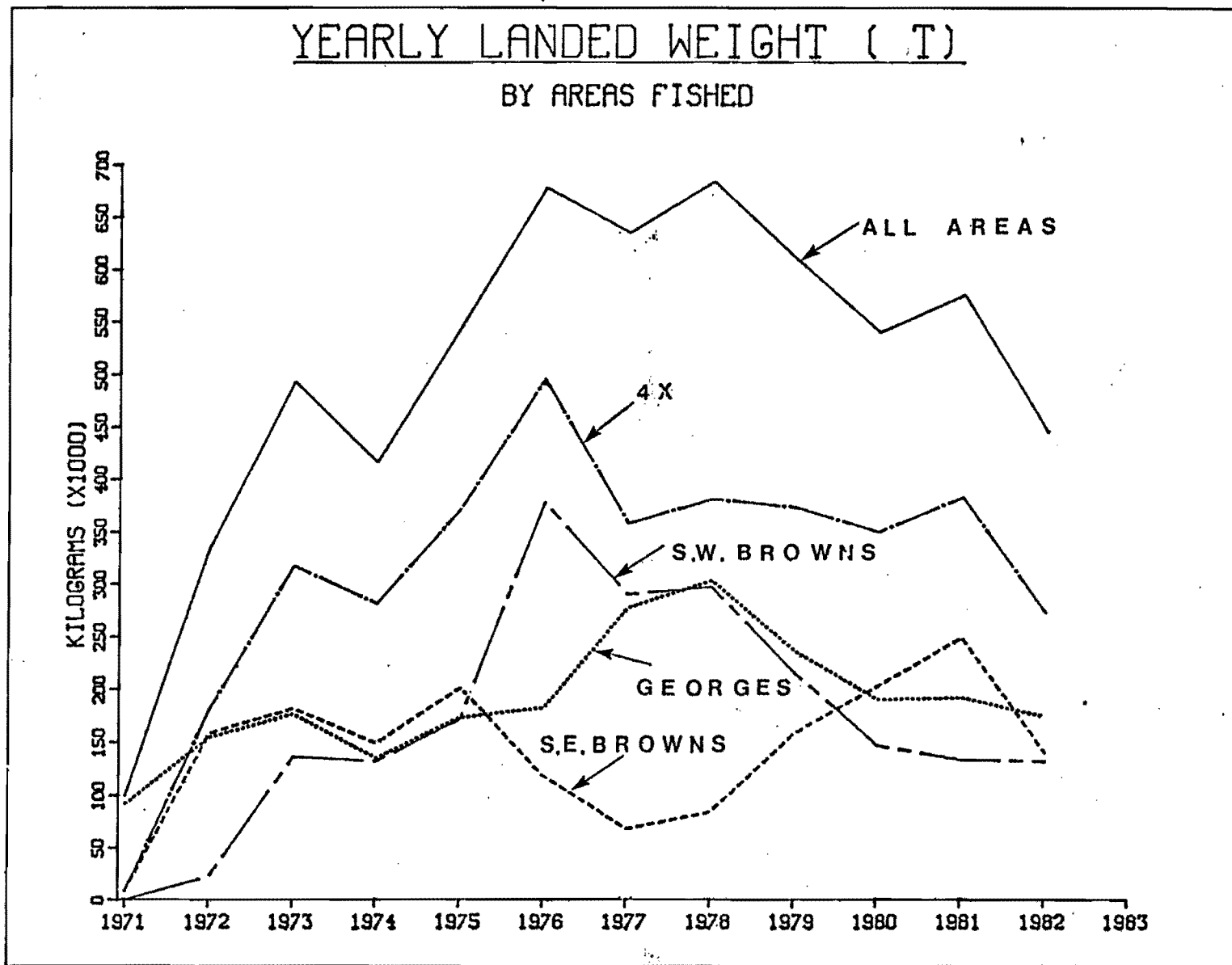


Figure 4. Total landed weight (t) by area fished, 1971 to 1982. Data are taken from fishermen's logbooks, sales slips, and fisheries officers' reports.

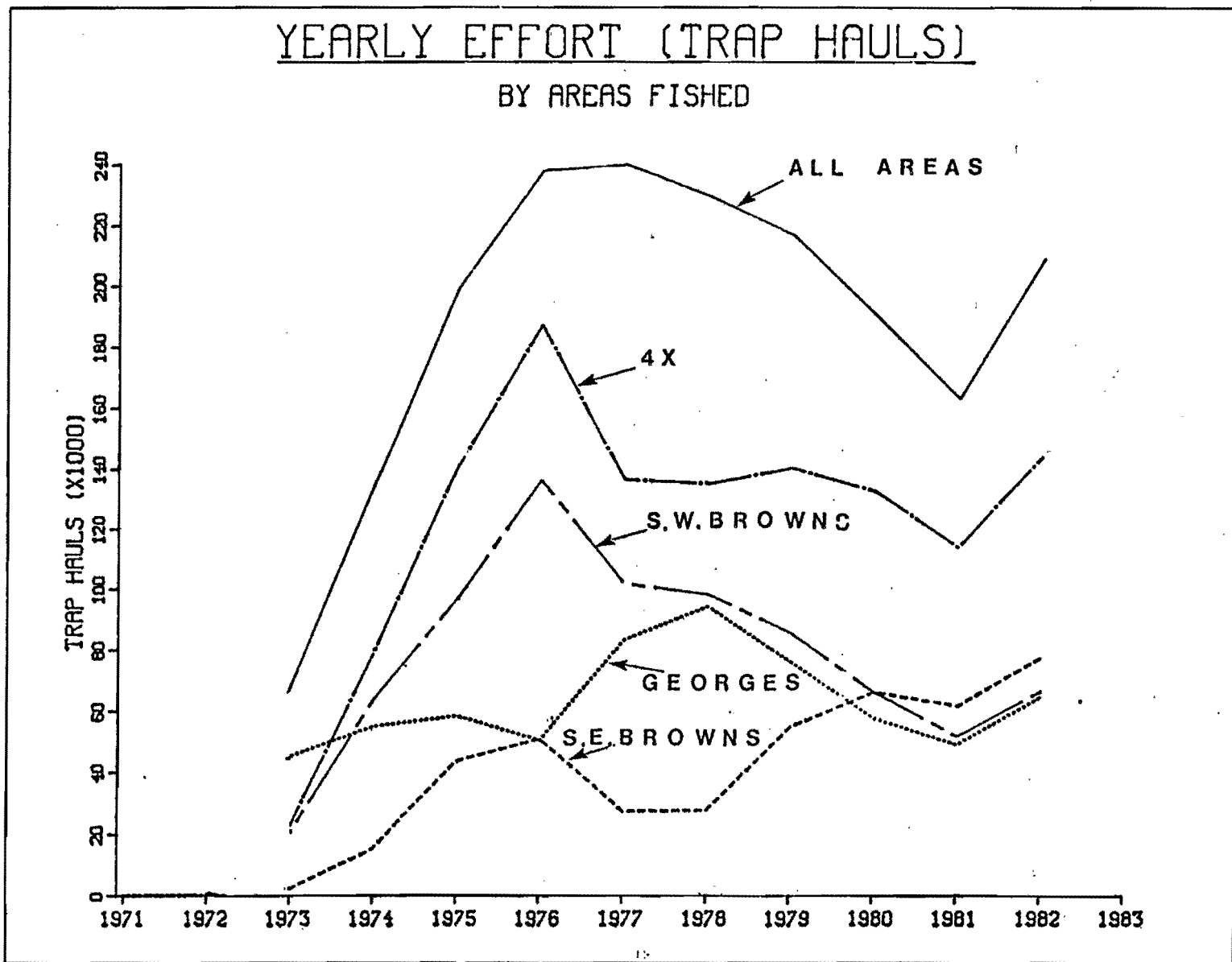


Figure 5. Total reported effort (trap hauls) by area fished, 1973 to 1982. Data are from fishermen's logbooks.

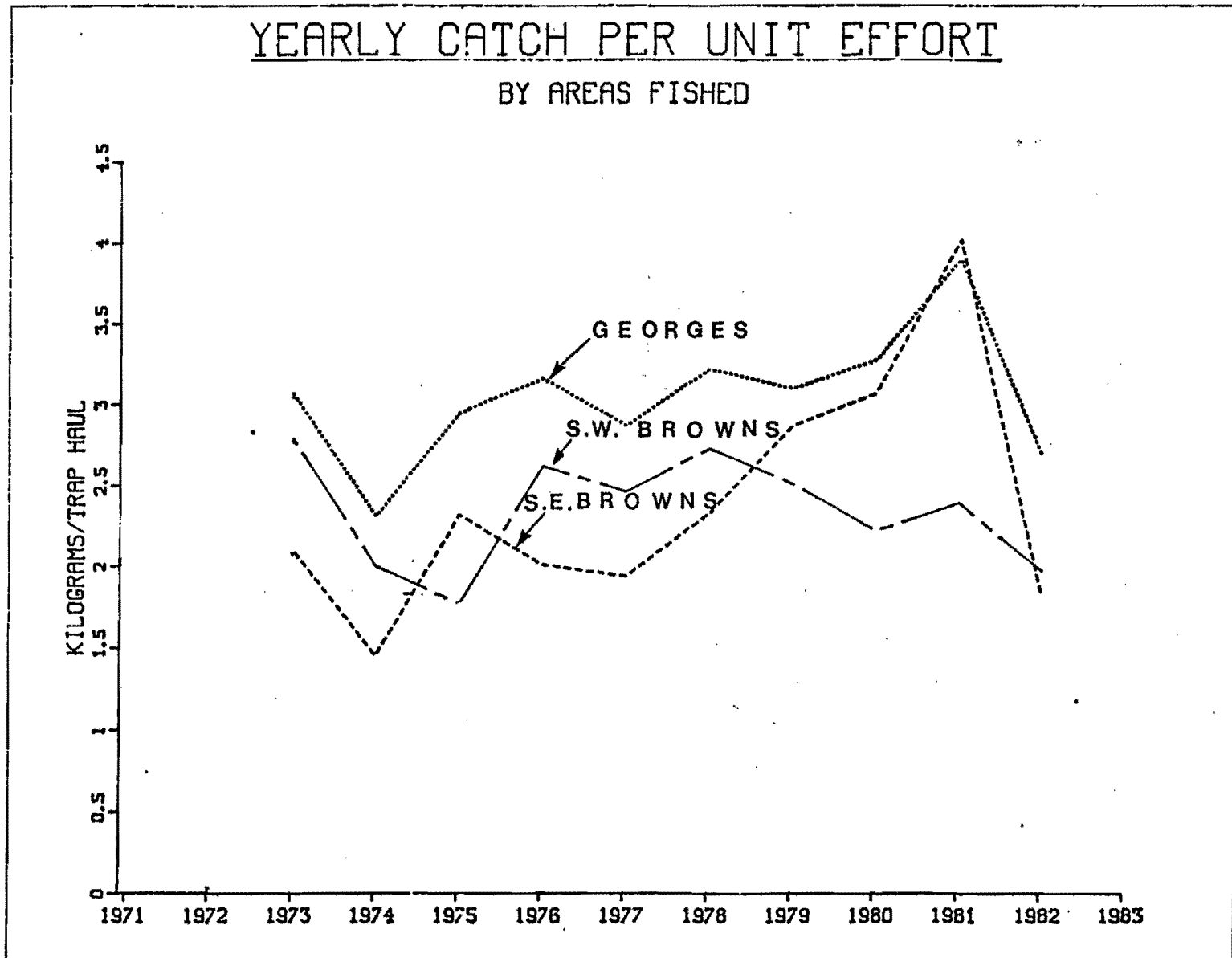


Figure 6. Mean CPUE (kg/TH) by area fished. Data are calculated from fishermen's logbooks and sales slips

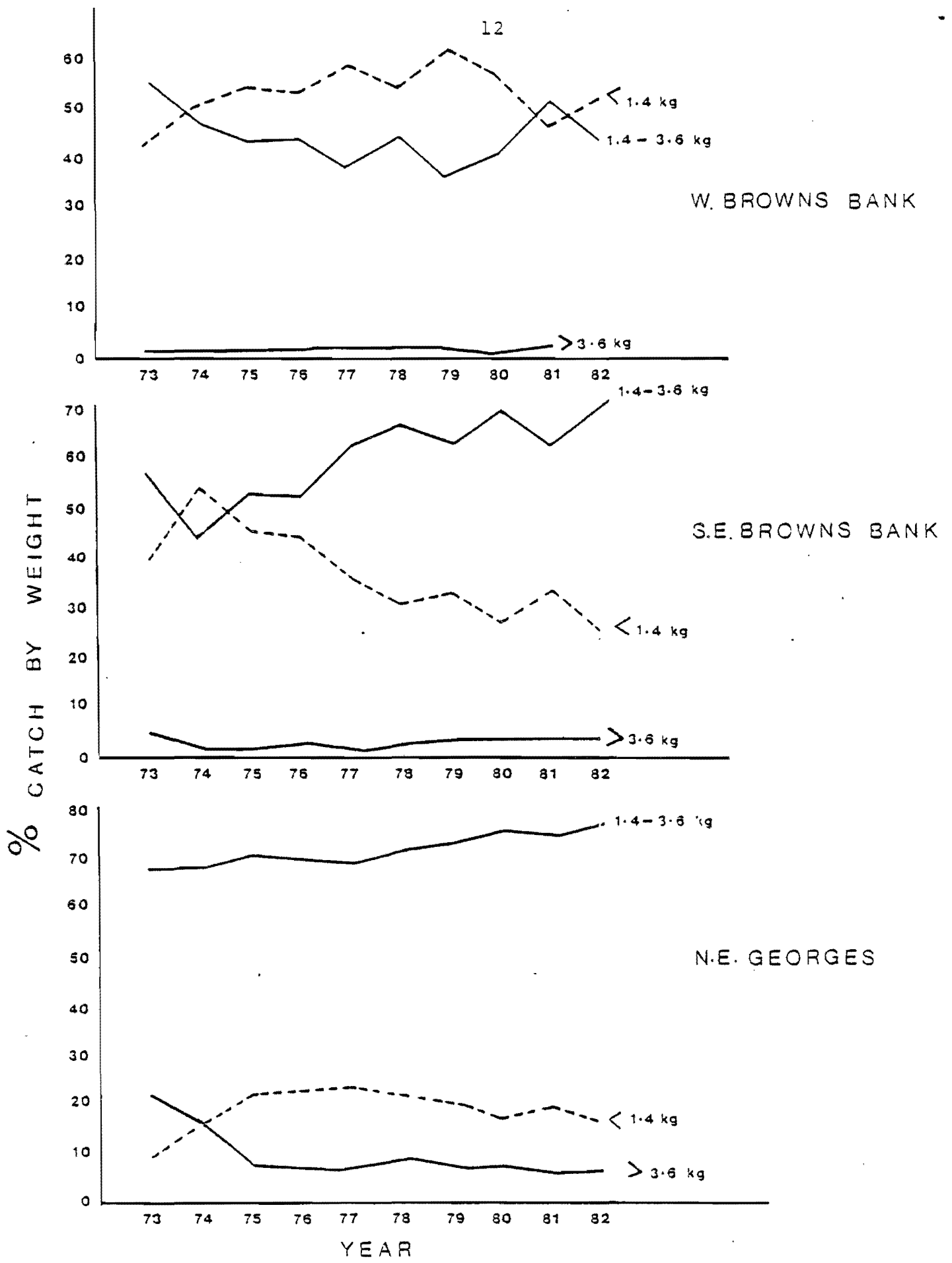


Figure 7. Percentage of the commercial catch by weight in each of three size groups, <1.4 kg, 1.4 kg to 3.6 kg, >3.6 kg, for W Browns, SE Browns, and NE Georges Banks, 1973 to 1982. Data taken from sales slips and logbook records.