

SOME OF THE PRINCIPAL FEATURES OF SWEDISH SPRAT FISHING IN THE SKAGERAK
AND THE KATTEGAT DURING AUTUMN AND WINTER

by

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There are in existence comprehensive catch data of the sprat fishing carried on in the waters off the west coast of Sweden (the Skagerak and the Kattegat), based on sales statistics from the fish auctions and on information provided by fishermen in accordance with current regulations.

Swedish sprat fishing is carried on during the period October to April in the open sea with bottom trawls and pelagic trawls (two boats form a pelagic trawl team), and in the archipelago by means of purse seines and shore seines. Open sea fishing for sprat (with trawls) usually reaches a maximum during October and November; after the beginning of January the catch in the open sea is usually rather small, in spite of the large number of landings. Archipelago fishing for sprat (with seines), on the other hand, seems sometimes to reach a peak after the turn of the year. The number of landings and the volume of the catch per week for open sea (trawl) and archipelago (seine) fishing for the seasons 1957 - 58 to 1961 - 62 are given in Fig. 1 a-e.

The catch, compared with the number of landings, suggests that the occurrence of sprat in the open sea declines after the end of the year. A similar comparison with reference to archipelago fishing sometimes indicates an increasing occurrence of sprat in the archipelago from January onwards. Fishing in the archipelago is usually less dependent on weather, and catch statistics indicate that sprat eventually move towards land and into the waters of the archipelago during late autumn and winter.

This is illustrated further by echo-sounding surveys, hydrographic surveys and more detailed statistics of catches for October 1959-61 from a region ca. 65 nautical miles long and a few nautical miles wide, relatively close to land off the west coast of Sweden, where a considerable part of the whole Swedish

catch of sprat is caught Fig. 2 b, dotted area¹⁾; cf. Table 1. A critical study of this fishery also indicates that sprat are near the coast in autumn. Hydrographic surveys have shown that during autumn and winter sprat are found principally in the warmest strata of the water, which are in the shallows near land and in the inner archipelago and the fjords. The temperature strata of the water are more marked there and deeper layers are warmer there than in the open sea.

The processing of the echo-soundings, the hydrography and the detailed catch statistics lead, in conformity with MOLANDER (1952), to the hypothesis that temperature conditions of the water during autumn and winter determine the occurrence of the sprat.

Litterature:

MOLANDER, ARVID R., 1952: The sprat fishery and the sprat of the West coast of Sweden.- Inst. Mar. Res., Lysekil, Ser. Biol., Rep. No. 2, 1 - 67.

1) Sprat fishing is without significance in other regions near the Swedish coast.

Tab. 1. Swedish catch of sprat in the open sea October 1959 - 1961 (trawls)

- A) relatively close to land (= "Coastal area" in Fig. 2a, dotted area in Fig. 2b)
 B) in other parts of the Skagerak and Kattegat (= large dot in Fig. 2b outside the coastal area)

	Bottom trawls		Pelagic trawls	
	A	B	A	B
<u>October 1959</u>				
Number of landings	136	708	20	144
Catch, ton	113	318	88	329
" , %	26	74	21	79
ton/landing	0.8	0.5	4.4	2.3
<u>October 1960</u>				
Number of landings	132	1270	-	76
Catch, ton	78	387	-	99
" , %	17	85	-	100
ton/landing	0.6	0.3	-	1.3
<u>October 1961</u>				
Number of landings	87	605	71	124
Catch, ton	70	390	336	316
" , %	15	85	52	48
ton/landing	0.8	0.7	4.7	2.6

FIG. 1 a

SPRAT 1957/58

OPEN SEA FISHERY
/trawls/



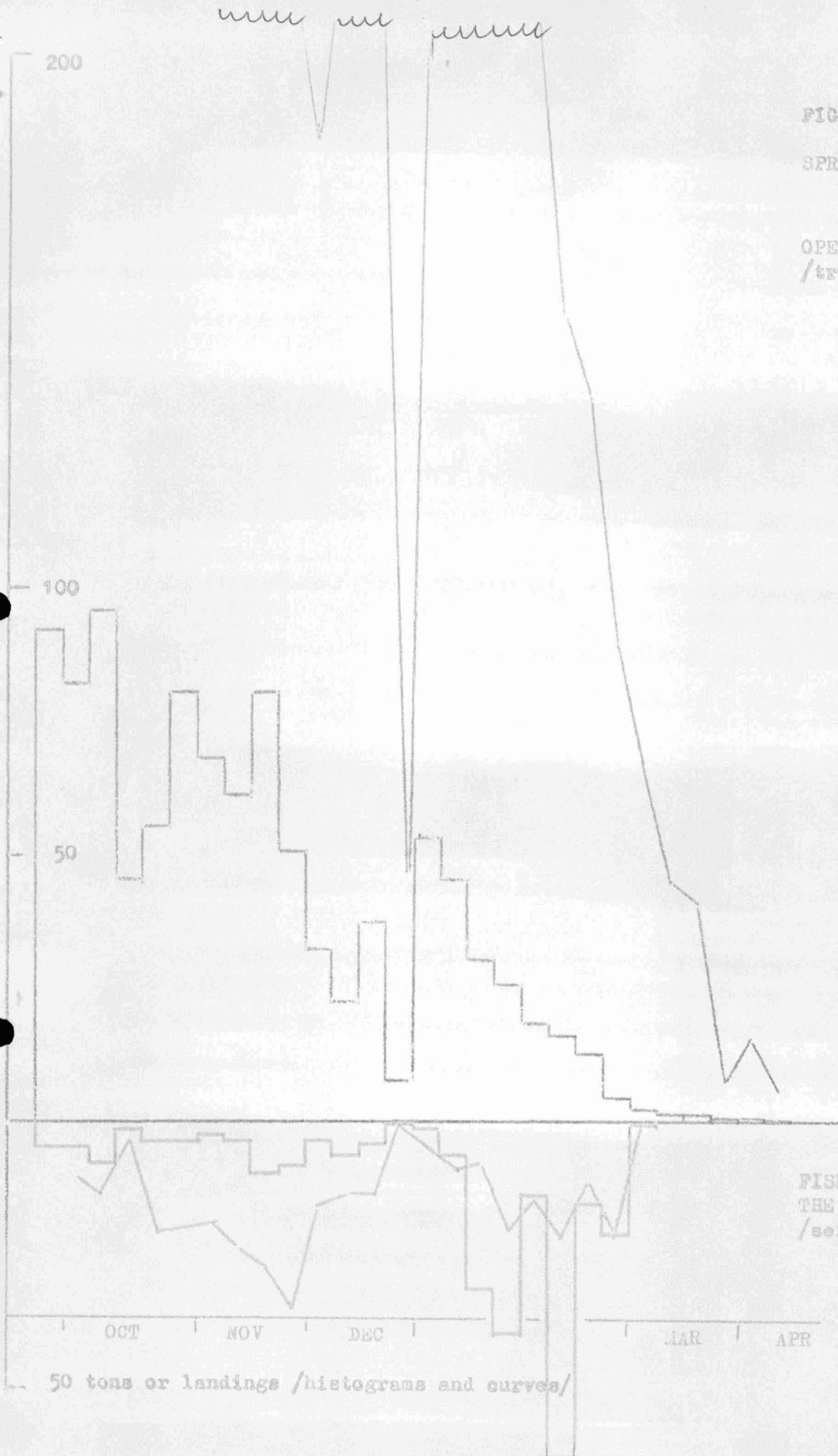
FISHERY INSIDE
THE ARCHIPELAGO
/seines/

50 tons or landings /histograms and curves/

FIG. 1 b

SPRAT 1958/59

OPEN SEA FISHERY
/trawls/



FISHERY INSIDE
THE ARCHIPELAGO
/seines/

FIG. 1 c
SPRAT 1959/60

OPEN SEA
FISHERY
/trawls/

FISHERY INSIDE
THE ARCHIPELAGO
/seines/

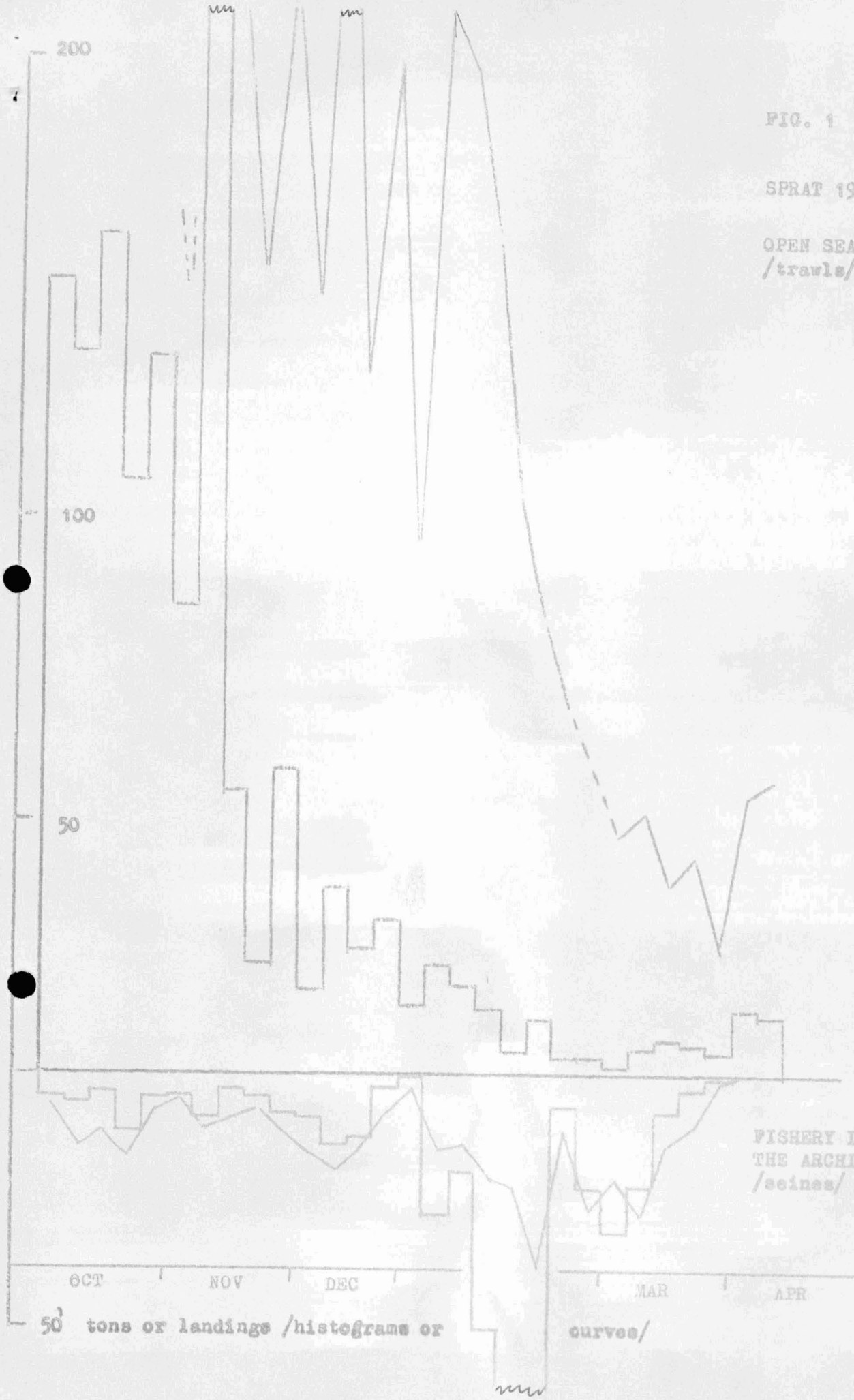


50 tons or landings /histograms or curves/

FIG. 1 d

SPRAT 1960/61

OPEN SEA FISHERY
/trawls/



FISHERY INSIDE
THE ARCHIPELAGO
/seines/

OCT

NOV

DEC

MAR

APR

50 tons of landings / histograms or

curves/

FIG. 1 e

SPRAT 1961/62

OPEN SEA FISHERY
/trawls/

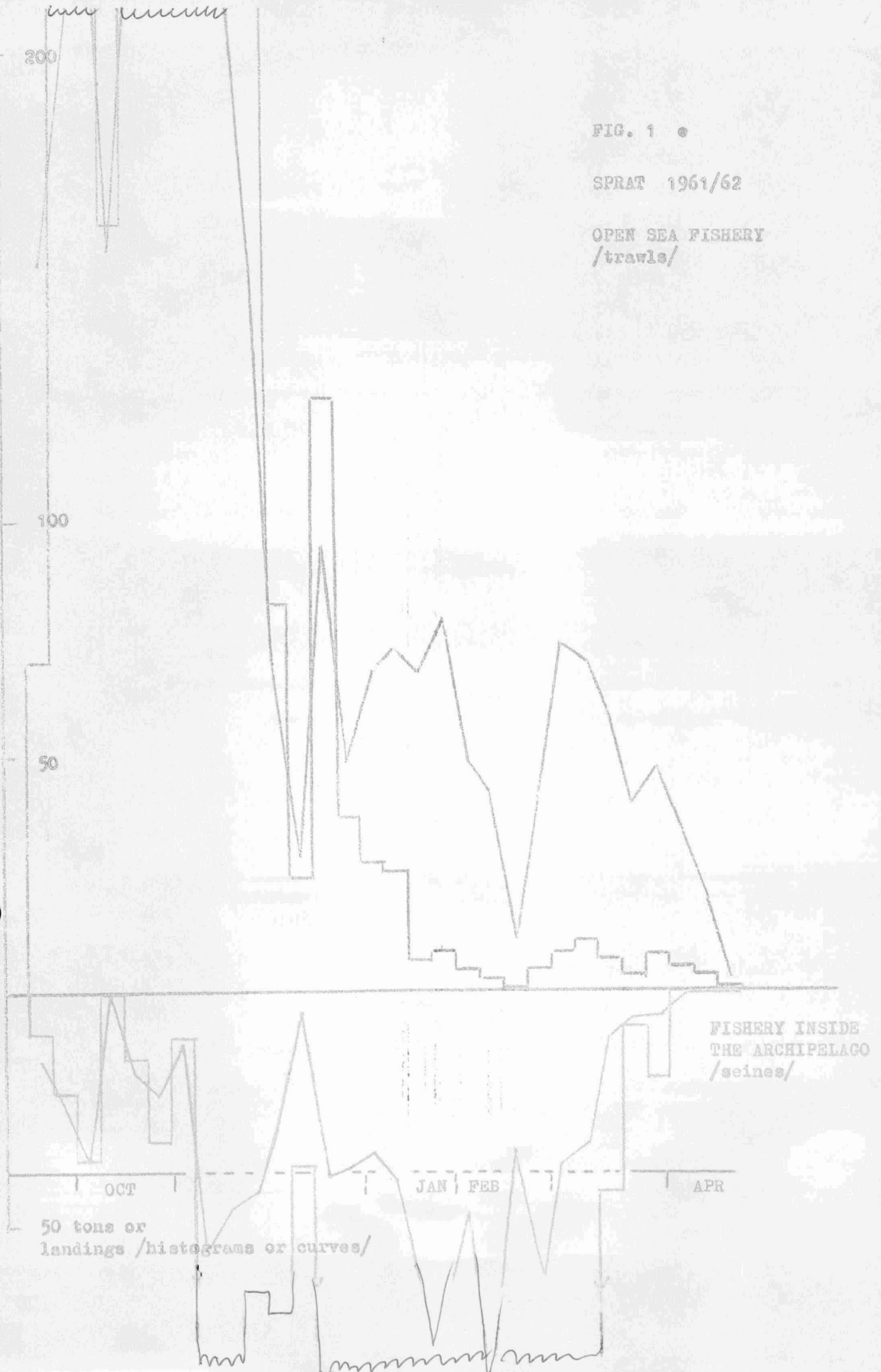


FIG. 2 a

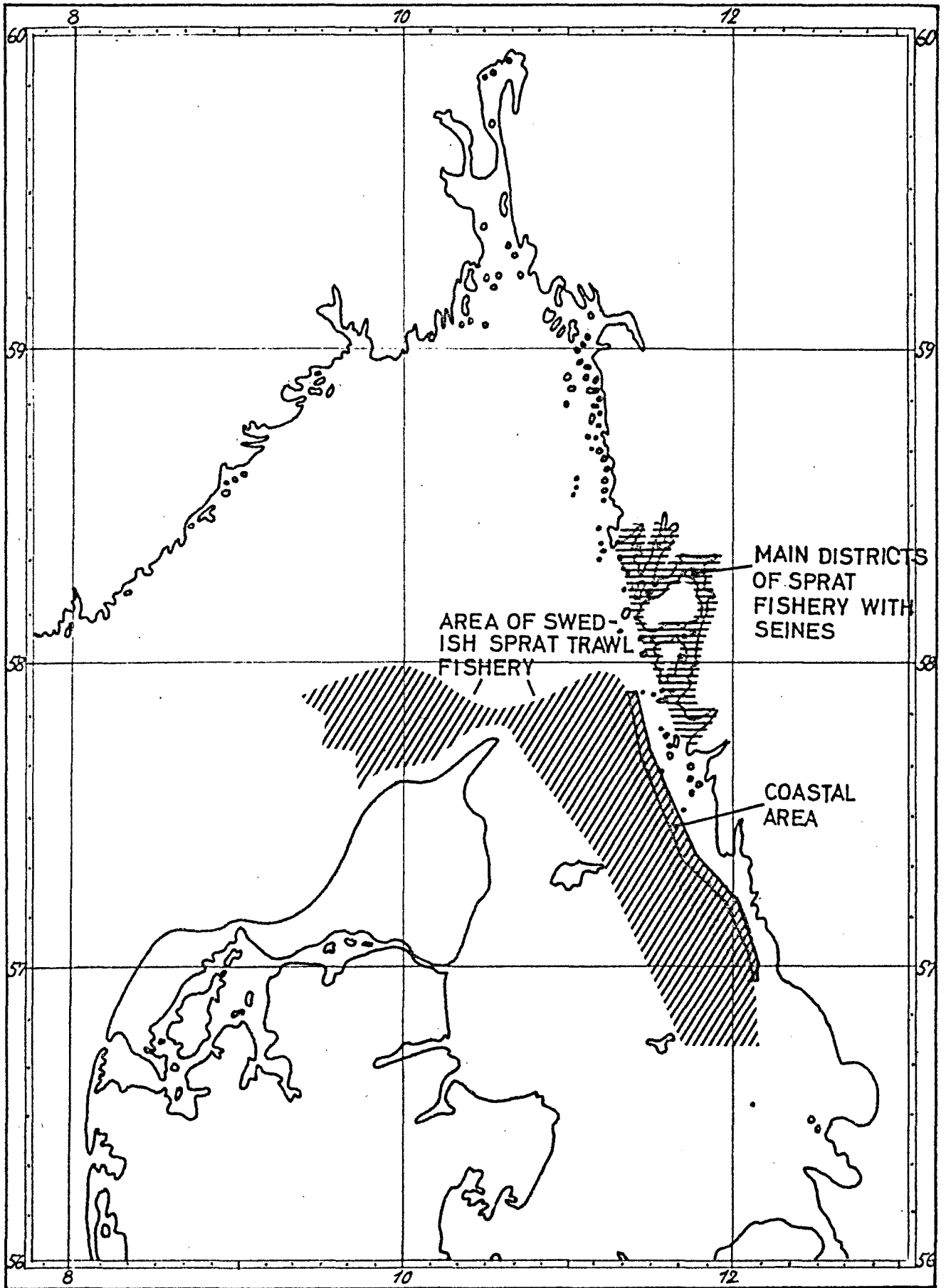


FIG. 2 b

Swedish sprat trawl fishery
during october 1959 - 1961;
catches in metric tons, cf.

Tab. 1