

Northwest Atlantic



Fisheries Organization

Serial No. N679

NAFO SCS Doc. 83/VI/12

SCIENTIFIC COUNCIL MEETING - JUNE 1983

Japanese Research Report for 1982

by

S. Kawahara

Far Seas Fisheries Research Laboratory
5-chôme Orido, Shimizu 424, Japan

The nominal total catch by Japanese trawlers from the NAFO waters (Subareas 3, 4, 5 and 6) showed about 50 % decrease from 17,800 tonnes in 1981 to 9,500 tonnes in 1982 (Table 1). This is mainly due to the decline of Illex catches in Divisions 4W and 4X. The allowable Japanese catch for Illex in Subareas 3 and 4 including the transferred Canadian quota of 14,750 tonnes was 17,000 tonnes for 1982, the same as 1981, but the Illex catch shrank from 6,055 tonnes in 1981 to only less than 300 tonnes in 1982.

The number of Japanese trawlers operated in the NAFO waters declined from 17 vessels in 1981 to 11 vessels in 1982, and ten vessels of which were 1,500-2,500 GRT class stern trawlers and one 1,000 GRT class stern trawler. The total fishing effort deployed in the waters was 16 thousand hours fished, about 30 % decrease from the total fishing effort of 22 thousand hours in 1981.

The fishing grounds of Japanese trawlers in 1982 were located on Flemish Cap and on the edge of the continental shelf from the southwestern Grand Bank to Cape Hatteras (Fig. 1). The seasonal movements of Japanese trawlers among these fishing grounds in 1982 were similar to those in the past several years, except for the early termination of Illex fishing season in Subareas 3 and 4. The fishing grounds for each commercially important species (Illex, Loligo and redfish) are presented in Fig. 2.

I. Subarea 3

A. Status of the Fisheries

The small-scale trawl fisheries for redfish were carried out in Division 3M and newly in Division 3O (Table 1).

Under the national quota of 400 tonnes for redfish in Division 3M, some trawlers operated on Flemish Cap during March-May and September-December, and caught 455 tonnes of fish, mostly composed

of redfish (392 tonnes). Redfish was taken mainly with bottom trawls at depths between 400-600 m. The mesh size of the cod-ends used was 130-135 mm.

In 1982, 500 tonnes of Canadian quota for redfish in Division 30 was transferred to Japan. The fishing operations for the redfish were made sporadically during April-November at depths of around 300 m on the southwestern edge of the Grand Bank, and a total of 548 tonnes of fish including 496 tonnes of redfish was taken using mainly the bottom trawls with the cod-ends of 60-130 mm in mesh size.

II. Subarea 4

A. Status of the Fisheries

The Illex-directed fishery was carried out in Divisions 4VWX.

The fishery started in July, but the catch rate of Illex was extremely low. In August, most of the Japanese trawlers operated and carried on the search for Illex schools in Divisions 4VWX along the southern edge of the Scotian Shelf while catching silver hake and argentine. However, few aggregations of Illex were found there and all vessels shifted to Subareas 5 and 6 by the end of September. Thus, the fishing effort in Divisions 4VWX declined from 5.4 thousand hours fished (542 days fished) in 1981 to 1.8 thousand hours (132 days) in 1982. The Illex catch showed a substantial decrease from 6,055 tonnes in 1981 to 273 tonnes in 1982, partly offset by the increased catch of silver hake. Japanese trawlers used both of the bottom and off-bottom gears with the cod-ends of 60-65 mm in mesh size.

A review of the fishery in 1976-1982 fishing seasons is given in a separate paper (NAFO SCR Doc. 83/VI/25). The estimation of the abundance index of Illex on the southern edge of the Scotian Shelf was discontinued for the 1982 fishing season because of the lack of sufficient fishing operations for such an estimation.

B. Special Research Studies

1. A Japan/Canada/USA joint research on Illex in the oceanic period

As a Japan/Canada/USA joint research project, a survey using Bongo Net, midwater trawl and rectangular net was performed by the R/V *Kaiyo Maru* in the northwest Atlantic from 16 January to 5 March, 1982. A great deal of information on the horizontal and vertical distributions of the Illex larva and juvenile in relation to the water types was obtained. Based on the results, the time and place of the spawning and the process of the inshore migration of the juvenile were surmised. The full description of this study and the results obtained had been already shown in a separated paper (NAFO SCR Doc. 82/VI/32).

III. Subareas 5 and 6

A. Status of the Fisheries

Both of the Loligo and Illex trawl fisheries were carried out on the edge of the continental shelf from southern Georges Bank to Cape Hatteras in different seasons (Table 1). The annual fishing effort in Subareas 5 and 6 declined from 15 thousand hours fished (1,447 days) in 1981 to 13 thousand hours (1,071 days) in 1982. The off-bottom trawls were mainly used in both of the Loligo and Illex fisheries. The mesh sizes of the cod-ends used were 45-50 mm and 60-65 mm for the off-bottom and bottom trawls, respectively.

The Loligo fishery was performed during January-March and November-December. Loligo was taken mainly at depths between 100-160 m in Subareas 5 and 6 with butterfish, mackerel and silver hake as by-catch. The catch of Loligo declined from 4,400 tonnes in 1981 to 2,700 tonnes in 1982, due to the decrease of the fishing effort for the species.

The Illex fishery was performed mainly during July-October. Most of the Illex catch was taken at depths between 150-300 m in Divisions 6A and 6B with mainly silver hake as by-catch. The Illex catch declined from 4,300 tonnes in 1981 to 2,600 tonnes in 1982, in spite of the substantial increase of the fishing effort caused by the early termination of Illex fishing season in Subareas 3 and 4.

B. Special Research Studies

1. A Japan/Canada/USA joint research on Illex in the oceanic period

Refer to the description on the Special Research Studies in Subarea 4.

Table 1. Fishing efforts and catches by species of Japanese trawl fishery in each NAFO division in 1981 and 1982.

Year	1981										
	3L	3M	3N	3O	4Vs	4W	4X	5Ze	5Zw	6A	6C
Division											Total
Hours fished	—	765	1	8	11	1,655	3,745	1,992	3,228	4,818	21,639
Days fished	—	82	1	2	2	161	379	173	290	385	2,074
Total catch	—	442	0	1	17	2,077	4,460	1,248	1,787	2,593	17,827
Redfish	—	385	—	0	—	3	2	0	—	—	390
Silver hake	—	—	—	0	1	39	80	111	200	183	763
Argentine	—	—	—	—	12	66	217	—	—	—	295
Squid-Loligo	—	—	—	—	—	—	—	837	997	1,503	4,353
Squid-Illex	—	—	0	0	4	1,959	4,091	67	38	620	10,357
Others	—	57	0	1	0	10	70	233	552	287	1,669
Year	1982										
	3L	3M	3N	3O	4Vs	4W	4X	5Ze	5Zw	6A	6C
Division											Total
Hours fished	10	849	12	408	3	1,618	213	1,957	2,109	3,829	15,839
Days fished	2	118	2	43	1	107	24	146	161	341	1,368
Total catch	1	455	1	548	—	1,244	172	888	962	2,068	9,476
Redfish	—	392	0	496	—	0	0	1	—	0	889
Silver hake	—	—	0	3	—	904	33	31	44	198	1,416
Argentine	—	—	0	11	—	50	113	—	—	—	174
Squid-Loligo	—	—	—	—	—	—	—	640	484	449	2,728
Squid-Illex	—	—	0	0	—	255	18	114	23	1,134	2,875
Others	1	63	1	38	—	35	8	102	411	287	1,394

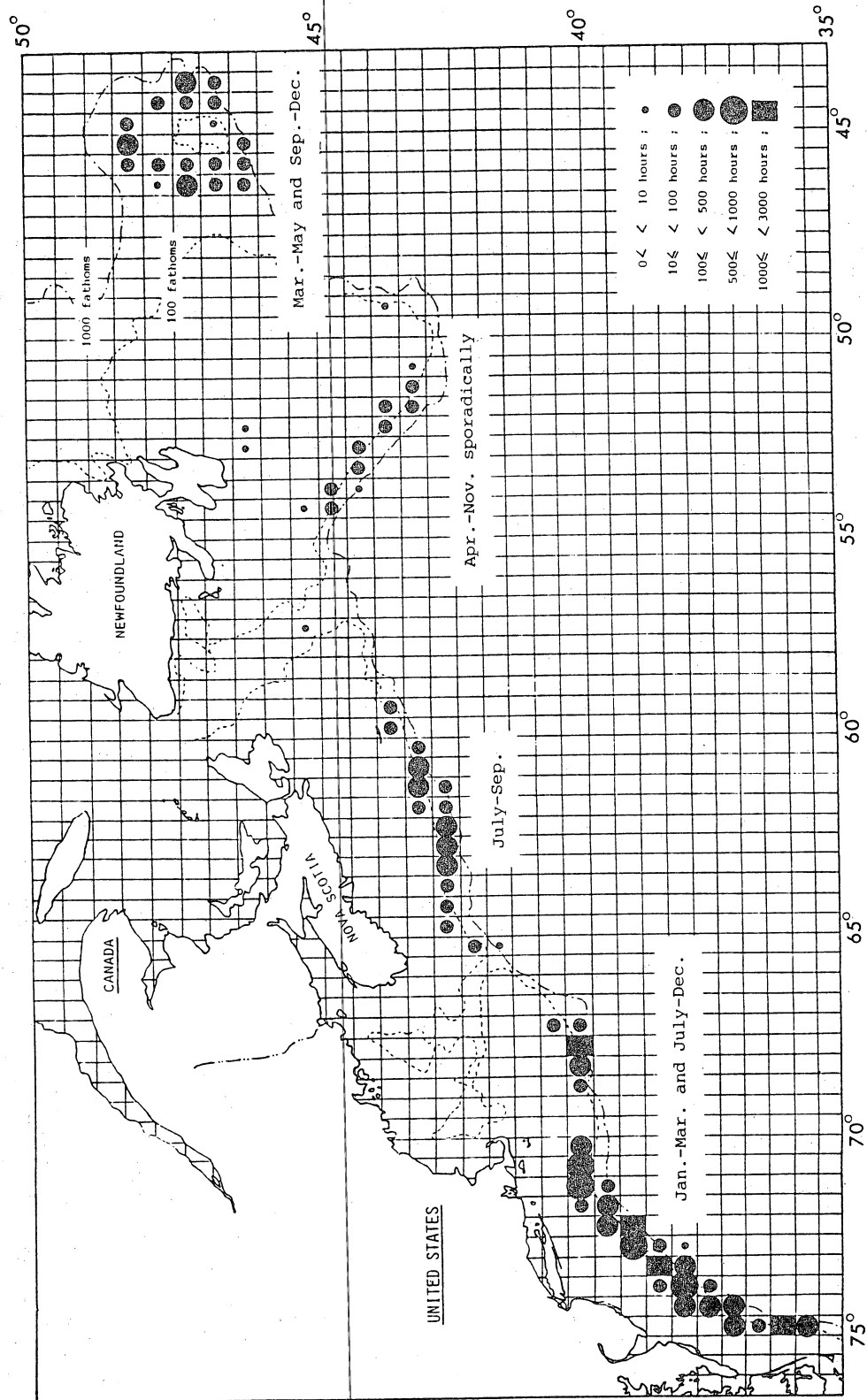


Fig.1. Fishing grounds of Japanese trawlers in 1982 expressed in annual fishing efforts on half-a-degree block basis.

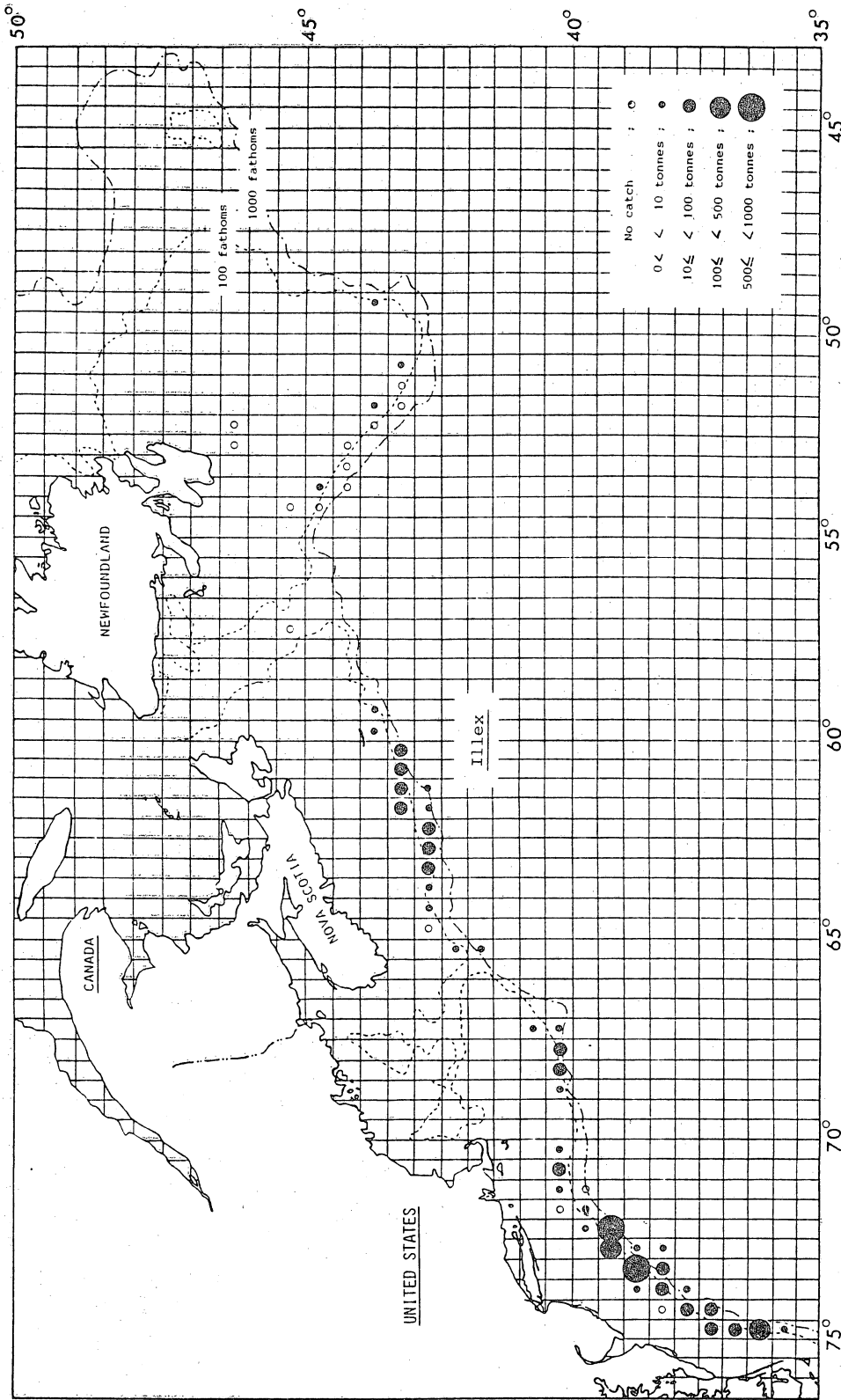


Fig. 2. Fishing grounds for commercially important species of 1982 Japanese trawl fishery expressed in annual catches on half-a-degree block basis.

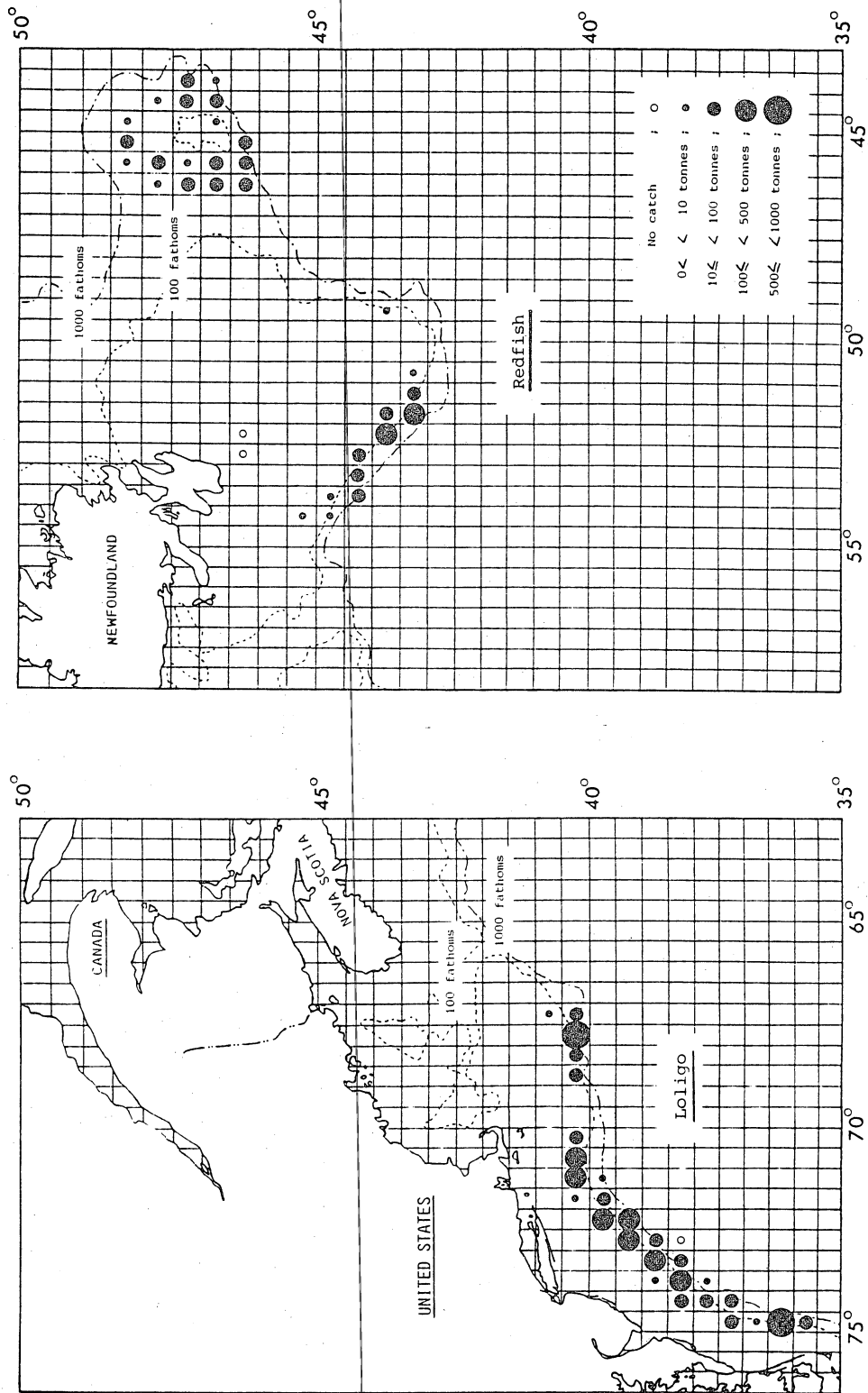


Fig.2. -continued.

