

Northwest Atlantic



Fisheries Organization

Serial No. N1012

NAFO SCS Doc. 85/13

SCIENTIFIC COUNCIL MEETING - JUNE 1985

Japanese Research Report for 1984

by

S. Kawahara

Far Seas Fisheries Research Laboratory
Orido, Shimizu 424, Japan

The total nominal catch by Japanese trawlers from the NAFO waters in 1984 was 10,000 tonnes, a sharp increase (130 %) from 4,300 tonnes in 1983 (Table 1). Significant increases occurred in the catches of redfish mainly in Subareas 3 and 4, and Greenland halibut in Subarea 2. This is mainly due to the increased fishing efforts in these subareas under the agreements between Japan and Canada. The catches of Illex in Subareas 3-6 still remained at the lowest level.

The number of Japanese trawlers operated in the NAFO waters increased from nine in 1983 to ten in 1984, seven of which were 2,000, one 1,500, one 1,000, and one 350 GRT class stern trawlers. The total fishing effort in 1984 was 11,400 hours fished, an increase (18 %) from 9,700 hours in 1983.

The fishing grounds of Japanese trawlers were located on the outer edge of the continental shelf and the continental slope, sometimes down to depths around 1,000 m, off the west coast of Greenland (Divisions 1B-1F), southern Labrador (2J), Newfoundland (3K-3O), Nova Scotia (4Vn-4X), and the United States (5Ze-6B). Japanese trawlers moved seasonally among these fishing grounds. The seasonal pattern slightly changed from the previous years as the fishing operations started newly in some divisions of Subareas 1-4 under the agreements with Canada and Greenland.

1. Subarea 1

A. Status of the Fisheries

Two trawlers operated experimentally in Divisions 1B-1F during September-November and caught about 800 tonnes of fish, mostly composed of redfish. Redfish was taken at depths between 200-400 m. The mesh sizes of the cod-ends used were about 140 mm.

II. Subarea 2

A. Status of the Fisheries

A new fishery directed to Greenland halibut was carried out at depths between 340-600 m in Division 2J during September-November. The Greenland halibut catch was about 900 tonnes. The mesh sizes of the cod-ends used were 130-140 mm. Also, the small scale trawl fishery for cod was conducted at depths around 300 m in the same division.

III. Subarea 3

A. Status of the Fisheries

The redfish-directed fishery was carried out at depths between 170-800 m in Divisions 3K, 3L, 3M, 3N and 3O during February-April and August-December. The total redfish catch was about 3,000 tonnes, mainly from 3K and 3O. The mesh sizes of the cod-ends used were 60-75 mm in Divisions 3N and 3O, and 130-150 mm in other divisions.

IV. Subarea 4

A. Status of the Fisheries

Fishing operations aiming at Illex were conducted by several trawlers during August-September in Subarea 4, extending to the southwestern Grand Banks (Division 3O). However, few aggregations of squid were found and the catches were mainly composed of silver hake. Japanese trawlers operated mainly at depths of 140-220 m, using 60-64 mm mesh cod-ends. A new fishery for redfish was carried out in Division 4V during September-December. About 1,300 tonnes of redfish were caught at depths between 310-560 m.

B. Special Research Studies

1. Biological Studies on Illex Larvae

Based on the data obtained from the Japan/Canada/USA joint survey on R/V Kaiyo Maru during January-March 1982, the geographical and vertical distributions of Illex larvae were described (NAFO SCR Doc. 84/IX/123). Illex larvae were most abundant in the water layers above the thermocline along the northern edge of the Gulf Stream which may play an important role in the transport of these larvae. Furthermore, some morphological changes with growth were described on the materials obtained in the same cruise (NAFO SCR Doc. 85/VI/). It is suggested that the changeovers from rhynchoteuthion to transition and from transition to juvenile occur at about 5 mm and 7 mm in dorsal mantle length, respectively.

V. Subareas 5 and 6

A. Status of the Fisheries

The Loligo fishery was carried out along the edge of the continental shelf (100-180 m) during January-March. The Loligo catch was 1,800 tonnes, unchanged from that in 1983. On the other hand, Illex-directed fishing operations were conducted mainly at depths around 200 m in Division 6B during August-September. The average catch rate of Illex by the directed fishery was 3.5 tonnes/day, being considerably higher than that in Subarea 4. The mesh size of the cod-ends used for both squids was 45-52 mm and 60 mm in the off-bottom and bottom trawls, respectively.

B. Special Research Studies

1. Biological Studies on Illex Larvae

Refer to the Special Research Studies in Subarea 4.

Table 1. Fishing efforts and catches by species of Japanese trawl fishery in each NAFO division in 1983 and 1984.

Year	1983																				
Division	1B	1C	1D	1E	1F	2J	3K	3L	3M	3N	3O	4Vn	4Vs	4W	4X	5Ze	5Zw	6A	6B	Total	
Hours fished	-	-	-	-	-	-	-	-	1,274	-	6	-	6	2,353	124	2,075	1,079	2,165	583	9,665	
Days fished	-	-	-	-	-	-	-	-	113	-	3	-	1	152	13	134	82	148	41	687	
Total catch	-	-	-	-	-	-	-	-	406	-	4	-	1	1,225	134	836	500	934	256	4,296	
Cod	-	-	-	-	-	-	-	-	1	-	-	-	-	3	1	-	-	-	-	6	
Redfish	-	-	-	-	-	-	-	-	389	-	2	-	-	-	-	-	-	-	-	391	
Silver hake	-	-	-	-	-	-	-	-	-	-	-	-	-	643	7	43	22	35	16	766	
Greenland halibut	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	
Argentine	-	-	-	-	-	-	-	-	-	-	-	-	-	74	74	-	-	-	-	148	
Squid- <u>Loligo</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	625	309	669	205	1,809	
Squid- <u>Illex</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	382	21	118	8	43	11	583	
Others	-	-	-	-	-	-	-	-	15	-	2	-	1	122	31	50	161	187	24	593	

Year	1984																				
Division	1B	1C	1D	1E	1F	2J	3K	3L	3M	3N	3O	4Vn	4Vs	4W	4X	5Ze	5Zw	6A	6B	Total	
Hours fished	88	22	198	278	165	1,224	762	296	726	53	964	1,089	574	644	3	38	1,509	2,008	759	11,399	
Days fished	8	4	24	42	25	94	78	26	77	3	77	70	48	47	1	6	91	137	64	922	
Total catch	24	2	245	339	191	1,221	1,259	460	416	85	1,446	948	508	637	0	40	680	1,217	332	10,048	
Cod	-	-	2	4	7	113	40	317	9	-	1	1	4	1	-	-	-	-	-	500	
Redfish	0	0	239	332	182	86	1,132	105	389	81	1,258	843	484	3	-	-	-	-	-	5,133	
Silver hake	-	-	-	-	-	-	-	-	-	-	16	0	4	526	0	7	6	26	8	593	
Greenland halibut	24	2	-	-	-	934	67	2	10	-	-	3	0	-	-	-	-	-	-	1,043	
Argentine	-	-	-	-	-	-	-	-	-	-	12	0	3	5	-	-	-	-	-	19	
Squid- <u>Loligo</u>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	588	997	212	1,808	
Squid- <u>Illex</u>	-	-	-	-	-	-	-	-	-	-	1	-	0	74	-	-	2	17	72	165	
Others	0	-	4	3	2	88	20	36	8	4	158	101	13	28	0	22	84	177	40	787	

