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Japanese Research Report for 1987

by

S. Kawahara

Far Seas Fisheries Research Laboratory  
Orido, Shimizu 424, Japan

The total nominal catch by Japanese trawlers (joint ventures included) from the NAFO waters slightly decreased from 11,800 tons in 1986 to 10,800 tons in 1987 (Table 1). This is mainly due to the decrease in the catches of Greenland halibut in Division 2J and redfish in Divisions 1E and 3K, some of which was compensated by the increasing catch in Greenland halibut in Divisions 1C and 2GH. While the catches of Illex in Subareas 3 and 4 still remained at the lowest level, the small fishery for capelin was resumed in Division 3N.

The number of Japanese trawlers operated in the NAFO waters decreased from thirteen in 1986 to nine in 1987. They were two 3,000, five 2,000 and two 1,000 GRT class stern trawlers. Total fishing effort decreased from 9,800 hours fished in 1986 to 8,300 hours in 1987. The decrease occurred in Divisions 1E, 2J and 3K, as in the catch. On the other hand, fishing efforts in Divisions 1C and 2GH increased.

The fishing grounds of Japanese trawlers were located on the continental slopes off West Greenland (Divisions 1A-1F), Labrador (2GHJ), Newfoundland (3K-3O), and Nova Scotia (4VW). The fishery in Subareas 5 and 6 ceased, because of the no quota allocation by the U. S. Japanese trawlers moved among these fishing grounds, as done in the previous years.

I. Subarea 1

A. Status of the Fisheries

Exploratory fishings were carried out by R/V Shinkai Maru mainly at depths around 1,000 m in Division 1C during the second half of the year. Most of the catch were Greenland halibut. Other commercial vessels fished for redfish at depths 180-390 m in Divisions 1EF. The mesh sizes of the cod-ends used were 140-160 mm.

B. Special Research Studies

1. A Japan and Greenland Joint Research on Groundfish off Greenland

Under an agreement between the Japan Marine Fishery Resource Research Center (JAMARC) and the Greenland Trawling Company of the Greenland Home Rule (GTC), two types of trawl surveys were carried by using R/V Shinkai Maru off West and East Greenland during July-November, 1987. One is the stratified bottom trawl surveys off West Greenland in July/August and off East Greenland in October. The other is the exploratory surveys for the deepwater and pelagic resources.

Based on the stratified survey off West Greenland, distribution, abundance and size composition of two species of redfish (Sebastes marinus and S. mentella) and Greenland halibut are described in NAFO SCR Doc. 88/VI/ and 88/VI/ . Including the data of the exploratory surveys, biological information such as Length-weight relationship on Greenland halibut off both coasts of Greenland is presented in NAFO SCR Doc. 88/VI/ . The results of stratified survey off East Greenland will be submitted to the next ICES meeting.

2. Biological Studies on Redfish and Greenland halibut taken by the Commercial Vessels

Frozen samples of redfish and Greenland halibut were collected on board the Japanese commercial vessels operating off East and West Greenland. Biological measurements of these samples were continued at our Laboratory.

II. Subarea 2

A. Status of the Fisheries

The fishery directed to Greenland halibut was carried out at depths of 510-1,190 m in Divisions 2GHJ during September-November. The Greenland halibut catch was 1,500 tons, an increase (30%) from 1,200 tons in 1986. The mesh sizes of the cod-ends used were 134-160 mm.

III. Subarea 3

A. Status of the Fisheries

The redfish-directed fishery was carried out between 170-700 m in Divisions 3K, 3L, 3M, 3N and 3O sporadically all the year round. The total redfish catch decreased (30%) from 5,700 tons in 1986 to 4,000 tons in 1987. Redfish were taken mainly in Divisions 3K and 3O as in

the previous years. Some fishing operations directed to Greenland halibut were made at depths of 490-850 m in Divisions 3KL. Capelin were caught at bottom depths of 50-70 m in Division 3N with mid-water trawls. The mesh sizes of the cod-ends used were 15 mm for capelin in Division 3N, 67-85 mm in Division 3O, and 130-160 mm in other Divisions.

#### IV. Subarea 4

##### A. Status of the Fisheries

The redfish-directed fishery was carried out in Divisions 4VW in March-April and July-September. About 1,200 tons of redfish were caught at depths between 260-470 m. Also, some fishing operations for silver hake and Illex were made at depths around 200 m in Division 4W in May and August, respectively. The mesh sizes of the cod-ends used were 61-85 mm.

Table 1. Fishing efforts and catches (tons) by species of Japanese trawl fishery in each NAFO Division in 1986 and 1987.

Year	1986																	Total					
	1A	1B	1C	1D	1E	1F	2G	2H	2J	3K	3L	3M	3N	3O	4Vn	4Vs	4W		4X	5Ze	5Zv	6A	6B
Hours fished	-	-	-	142	1,198	462	-	126	1,903	2,307	86	657	3	727	463	1,370	109	-	39	33	201	17	9,841
Days fished	-	-	-	20	157	74	-	12	118	210	12	64	1	62	29	95	8	-	6	3	19	2	892
Total catch	-	-	-	60	1,407	610	-	49	1,496	4,270	140	442	12	1,208	298	1,382	125	-	57	22	220	8	11,806
Cod	-	-	-	0	10	1	-	0	73	96	1	5	-	1	1	29	-	-	-	-	-	-	217
Redfish	-	-	-	59	1,382	602	-	1	189	3,986	134	399	12	1,161	256	1,190	43	-	-	-	-	-	9,414
Silver hake	-	-	-	-	-	-	-	-	-	-	-	-	-	15	-	23	41	-	2	-	1	0	83
Greenland halibut	-	-	-	-	0	-	-	42	1,146	87	1	35	-	3	2	0	-	-	-	-	-	-	1,316
Argentine	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0	38	2	-	-	-	-	-	44
Squid-Loligo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	8	110	3	133
Squid-Illex	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1
Other	-	-	-	1	15	7	-	6	88	101	4	3	0	24	39	102	39	-	43	14	108	5	598

Year	1987																	Total					
	1A	1B	1C	1D	1E	1F	2G	2H	2J	3K	3L	3M	3N	3O	4Vn	4Vs	4W		4X	5Ze	5Zv	6A	6B
Hours fished	47	105	528	128	40	303	837	651	354	1,151	237	990	361	661	347	1,373	211	2	-	-	-	-	8,325
Days fished	7	15	46	12	7	38	72	56	27	129	22	89	34	61	22	90	20	1	-	-	-	-	748
Total catch	15	73	986	254	28	408	881	564	256	2,949	298	434	845	1,211	221	1,164	179	0	-	-	-	-	10,766
Cod	0	0	0	2	14	17	-	0	16	106	-	0	-	15	1	17	1	-	-	-	-	-	189
Redfish	0	4	1	0	13	385	-	4	43	2,341	114	400	51	1,073	198	944	43	-	-	-	-	-	5,614
Silver hake	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	30	114	-	-	-	-	-	146
Greenland halibut	15	38	717	136	0	0	828	528	188	431	153	31	1	0	3	1	-	-	-	-	-	-	3,069
Argentine	-	-	-	-	-	-	-	-	-	-	-	-	-	10	1	50	0	0	-	-	-	-	61
Capelin	0	0	0	-	-	-	-	-	-	-	-	-	-	793	-	-	-	-	-	-	-	-	793
Squid-Illex	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	3	-	-	-	-	-	5
Others	1	32	269	116	1	6	53	31	9	71	31	4	-	111	17	122	17	0	-	-	-	-	888