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Japanese Research Report for 1989

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The total nominal catch by Japanese trawlers from the NAFO waters increased (7%) from 8,670 tons in 1988 to 9,260 tons in 1989 (Table 1). Most of the catches of main species more or less increased except for Greenland halibut. Especially the catch of capelin in Division 3N increased (about 1.5 times) from 1,400 tonnes in 1988 to 2,200 tonnes in 1989. In recent years the catches of *Illex* in Subareas 3 and 4 have remained at the lowest level and no catch of *Illex* was recorded in 1989.

The number of Japanese trawlers operated in the NAFO waters slightly decreased from six in 1988 to five in 1989. They were two 3,000, one 2,000 and two 500 GRT class stern trawlers. Total fishing effort slightly decreased (5%) from 7,000 hours fished in 1988 to 6,600 hours in 1989. The decrease occurred mainly in Divisions 2G, 3K and 3O. On the other hand, the increase occurred in Divisions 3M and 3N.

The fishing grounds of Japanese trawlers were located on the continental slopes off West Greenland (Divisions 1C and 1D), Labrador (2GHJ), Newfoundland (3K-3O), Flemish Cap (3M) and Nova Scotia (4V). 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 Divisions 1C and 1D in May-July and October-December. Most of the catch were Greenland halibut. No other commercial vessel operated in this area. The mesh sizes of the codends used were 140-145 mm.

B. Special Research Studies

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, stratified bottom trawl survey and exploratory survey for the deepwater and pelagic resources, have been continued off West and East Greenland since 1987 by

using R/V Shinkai Maru . In 1989, the former survey was carried out off West Greenland in April/May and off East Greenland in September/October. The latter one was carried out from May to December.

Based on the stratified survey off West Greenland, abundances of Greenland halibut and roundnose grenadier are described in NAFO SCR Doc 90/VI/. The results of stratified survey off East Greenland will be submitted to the next ICES meeting.

II. Subarea 2

A. Status of the Fisheries

The fishery directed to Greenland halibut was carried out at depths of 700-1,050 m in Divisions 2GHJ during September-December. The Greenland halibut catch was 456 tons, an decrease (66%) from 1,400 tons in 1988. The mesh sizes of the cod-ends used were 130-140 mm.

III. Subarea 3

A. Status of the Fisheries

The redfish-directed fishery was carried out between 200-700 m in Divisions 3K, 3L, 3M, 3N and 30 all the year round. The total redfish catch increased (14%) from 2,800 tons in 1988 to 3,200 tons in 1989. Redfish were taken mainly in Divisions 3K and 30 as in the previous years. Furthermore, the red fish catch in 3M increased (about 2 times) from 390 tons in 1988 to 890 tons in 1989. Some fishing operations directed to cod in Division 3N and American plaice in 3M were made at depths around 200 m. Capelin were caught at bottom depths of 45-60 m in Division 3N with mid-water trawls. The mesh sizes of the cod-ends used were about 20 mm for capelin in Division 3N, 95-135 mm in other Divisions.

IV. Subarea 4

A. Status of the Fisheries

The redfish-directed fishery was carried out in Division 4V in July-August and October at the depths of 300-400 m. The total redfish catch increased (5%) from 460 tons in 1988 to 485 tons in 1989. In Division 4W, the silver hake-directed fishery was carried out in April and the catch attained to about 200 tons. No other directed fishery was carried out and no catch of *Illex* was obtained. The mesh sizes of the cod-ends used were 60 mm for silver hake in Division 4W and 130-160 mm for red fish.

Table 1. Fishing efforts and catches (tons) by species of Japanese travi fishery in each MAFO Division in 1988 and 1989.

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