

Northwest Atlantic



Fisheries Organization

Serial No. N511

NAFO SCR Doc. 82/VI/23

SCIENTIFIC COUNCIL MEETING - JUNE 1982

Outline of Japanese Squid Fishery in NAFO Subareas 3 and 4 in 1981

by

H. Hatanaka

Far Seas Fisheries Research Laboratory  
1000 Onido, Shimizu 424, Japan

General View of Fishing Operation

As the quota for 1981, Japan was allocated 17,000 tons of Illex, squid, including the quota transferred from Canada, in Subareas 3 and 4. Japanese vessels started the fishery in August. However, abundance of squid has decreased since the end of September, and all of the vessels thereby moved to subarea 5 and 6. Consequently, Japanese fishing activity ceased at the end of October in Subarea 3 and 4, while the squid fishery had continued until the middle of November in the past three years. The squid catch in the 1981 fishing season was only 6,055 tons.

The number of vessels licensed and actually operated in the 1981 season are shown in Table 1. Eleven Japanese trawlers operated mainly at the fishing grounds of 150-350 m deep on and along the continental edge and slope of the Scotian Shelf (Divisions 4Vs, W and X) and occasionally on the southern edge of Grand Banks (3N and O). Comparing with the year of 1980, the number of vessels decreased from 17 to 11, and the large-sized vessel (3000 tonnage class) disappeared in 1981 while two vessels of this class operated in the previous fishing season. Most of the Japanese trawlers mainly used bottom trawl gear and subsidiarily off-bottom trawl gear. The mesh of cod-end ranged from 60 to 65 mm, irrespective of gear types and vessel sizes.

Squid Catch, Effort and Fishing Ground

Japanese squid catch and fishing effort expended for squid by NAFO divisions in the 1981 fishing season are shown in Table 2. The total Illex catch by the direct fishery amounted to 5,992 tons, and 63 tons of squid were also taken as by-catch of the argentine fishery. Total squid catch by all Japanese vessels amounted to 6,055 tons which was 36 % of the quota allocated to Japan and was 37 % of the catch in 1980.

Japanese fishing efforts were concentrated to Divs. 4X and W, and

the fishing days in these two divisions attained to 99 % of the total fishing days. Consequently, squid catch was obtained mainly from these two divisions. The distribution of the fishing effort was similar to that in 1980, while most of the catch in 1978 and 1979 was taken from Divs. 4Vs and W. More detailed locality of fishing efforts and squid catch in September are shown in Fig. 1.

The CPUEs of Illex squid by months and by divisions are given in Table 3 and the CPUEs by 30'-square blocks are shown in Fig. 1. The values were at low level as same as those in the 1980 fishing season. The CPUEs in August and September ranged from 11 to 15 tons per day, but the values declined to less than half of the previous month's in October. Japanese trawlers, accordingly, shifted to Subareas 5 and 6, and there was no vessel operating in Subareas 3 and 4 in November.

#### by-catch

The incidental catches of other species by direct squid fishery in 1981 are shown in Table 4. Around 229 tons of by-catch, mainly composed of silver hake (50 %) and argentine (15 %), were caught in Subareas 3 and 4.

Table 1. Number of Japanese vessels operated in the 1981 fishing season in Subareas 3 and 4.

Tonnage class (GRT)	Number of vessels operated*			Number of licenced vessels	No. of** vessels in 1980
	Aug	Sep	Oct		
1000 (991-1000)	1	1	-	1	3
1500 (1246-1499)	2	2	2	2	3
2000 (1949-2538)	8	8	6	8	9
3000 (3219-3280)	-	-	-	-	2
Total	11	11	8	11	17

\* Some vessels switched occasionally to argentine fishery

\*\* Number of vessels operated

Table 2. Illex squid catch in tons and effort expended by Japanese squid fishery in Subareas 3 and 4 in 1981. The catch and effort by argentine fishery are excluded.

Month	Aug	Sep	Oct	Total	1980 total
Days fished	191	255	58	504	1434
Hours hauled	2059	2443	570	5072	13563
3N	-	0	-	0	-
3O	-	0	-	0	-
4Vs	1	3	-	4	4
4W	1837	100	7	1944	3623
4X	1017	2761	266	4044	12253
Total	2855	2865	273	5992	15880

Table 3. CPUEs of Illex squid, catch per day (/D) and per hour (/H) in tons, for Japanese trawlers in recent 4 years in Subarea 4, irrespective of vessel size and gear type. Parentheses indicate the division where the effort is less than 10 days.

Month	Div.	1978*		1979*		1980		1981	
		/D	/H	/D	/H	/D	/H	/D	/H
Jul	4Vs	(128.0)	(6.4)	-	-	(3.8)	(0.4)	-	-
	4W	(0.0)	(0.0)	16.6	2.4	10.3	0.8	-	-
	4X	-	-	-	-	(7.8)	(1.8)	-	-
	Total	12.8	0.9	16.6	2.4	9.9	0.8	-	-
Aug	4Vs	29.4	2.0	(37.5)	(6.0)	-	-	(0.5)	(0.1)
	4W	24.3	1.8	26.6	2.7	10.5	0.8	14.8	1.3
	4X	(9.2)	(0.7)	(21.0)	(2.3)	15.2	2.0	15.4	1.5
	Total	23.9	1.7	27.0	2.8	12.4	1.1	14.9	1.4
Sep	4Vs	30.7	2.4	35.3	3.9	(0.0)	(0.0)	(3.3)	(0.8)
	4W	25.8	1.8	31.6	3.1	6.9	0.8	4.8	0.6
	4X	-	-	(5.0)	(5.0)	12.0	1.4	11.9	1.2
	Total	27.6	2.0	33.7	3.6	11.5	1.3	11.2	1.2
Oct	4Vs	13.0	1.2	33.2	3.0	-	-	-	-
	4W	26.5	1.9	36.3	3.3	1.7	0.4	(1.7)	(0.2)
	4X	7.7	0.6	-	-	10.3	1.2	4.9	0.5
	Total	24.7	1.8	35.3	3.2	9.8	1.2	4.7	0.5
Nov	4Vs	(3.8)	(0.3)	-	-	-	-	-	-
	4W	21.8	1.5	31.8	2.3	6.7	1.0	-	-
	4X	(7.5)	(1.0)	-	-	10.0	1.1	-	-
	Total	19.5	1.4	31.8	2.3	9.5	1.1	-	-

\* based on catch and effort within the limit of Canadian quota

Table 4. By-catch in tons and the percentage (in parentheses) in total species catch by direct squid fishery by Japanese trawlers in 1981 fishing season.

Div.	Silver Hake	Argentine	Haddock	Total*
3N,O	0	-	-	1 (64.3)
4Vs	1	11	-	12 (76.4)
4W	36	14	5	63 ( 3.1)
4X	76	10	12	152 ( 3.6)
Total	113 (1.8)	34 (0.5)	17 (0.3)	229 (3.7)

\* including other species

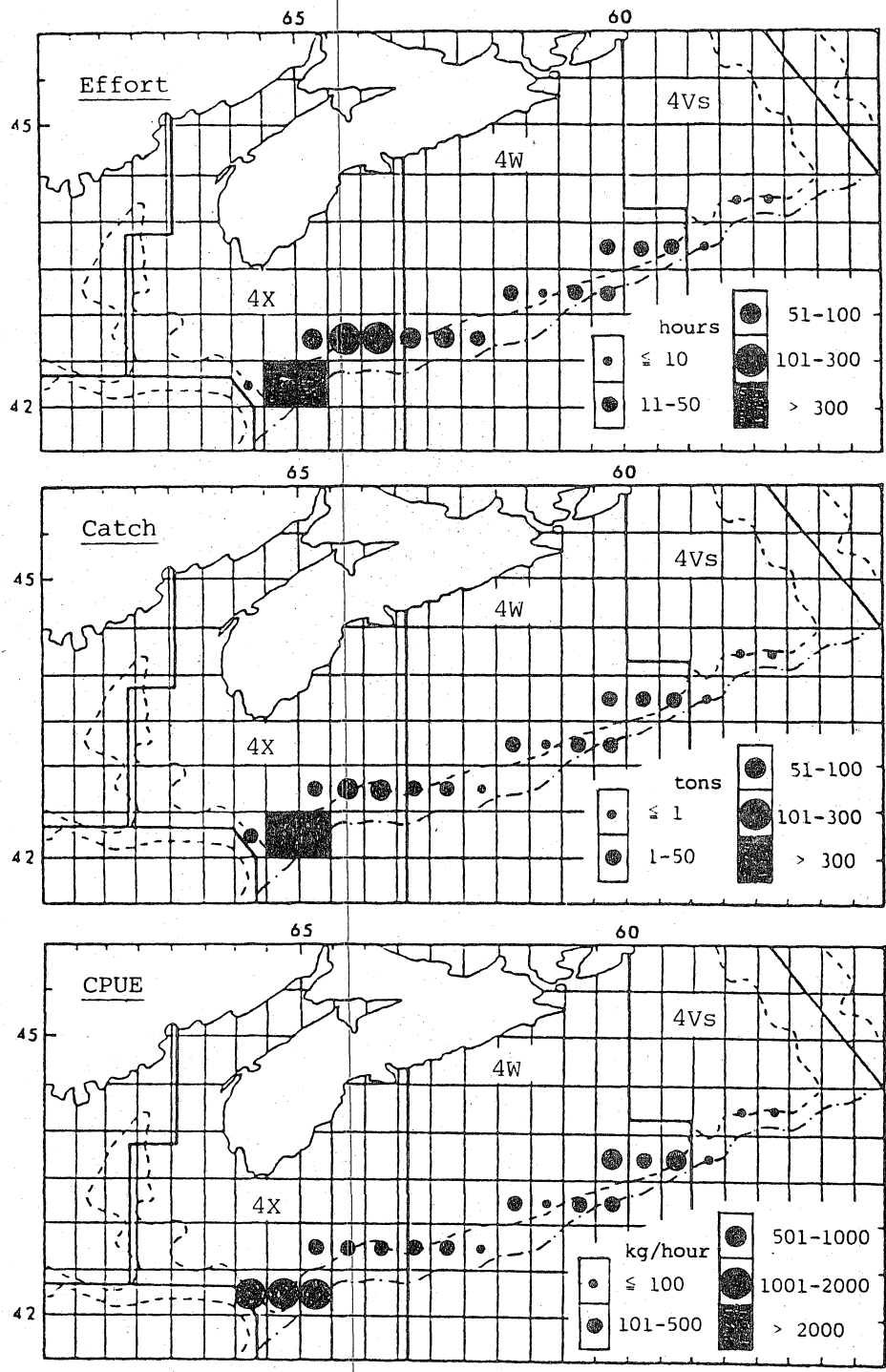


Fig. 1. Fishing effort, catch and CPUE of *Illex* squid by Japanese trawlers in September 1981, including the values by direct argentine fishery. Depth contours of 100 and 1000 fathoms are shown in the figure.

