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# Northwest Atlantic



Fisheries Organization

Serial No. N299

V. C & B

NAFO SCS Doc. 81/VI/9

SCIENTIFIC COUNCEL MEETING - JUNE 1981

Japanese Research Report for 1980

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by

The nominal total catch by Japanese vessels from the NAFO waters (Subarea 3, 4, 5 and Statistical Area 6) showed a substantial decrease from 41,574 tons in 1979 to 29,713 tons in 1980 (Table 1). This is due to the decline of <u>Illex</u> catch in Canadian waters. The allowable Japanese catch of <u>Illex</u> in Subarea 3 and 4 including the Canadian quota partially transfered to Japan was 17,000 tons for 1980, while it was 31,217 tons in 1979 including the quota reallocated under the Co-operative Fishery with Canada

A total of 20 trawlers ranging from 1,000 to 3,000 tonnage class operated extending from Subarea 3 to Statistical Area 6, and engaged in the squid (<u>Illex or Loligo</u>), redfish and argentine fisheries on occasion, using either the bottom or off-bottom trawl gear. There was no operation of squid jigging vessels in 1980.

The provisional Japanese catch and effort statistics by divisions for 1980 are shown in Table 2. About two thirds of Japanese catch were taken from Canadian waters. In regard to catch by species in 1980, the catch of <u>Illex</u> squid was overwhelmingly large, followed by <u>Loligo</u> squid, accounting for 63 % and 20 % of Japanese total catch from the NAFO waters, respectively.

I. SUBAREA 3

#### A. Status of the Fisheries

The small-scale redfish fishery was carried out in Div. 3M. some trawlers operated on the Flemish Cap from February to June and caught 1,029 tons of fish, mostly composed of redfish (976 tons).

# II. SUBAREA 4

# A. Status of the Fisheries

Two types of trawl fisheries for <u>Illex</u> squid and for argentine were carried out in 1980 on and along the southern edge of the Scotian Shelf.

- 2 -

The <u>Illex</u> fishery commenced in July and finished in November. The trawlers used the bottom or off-bottom gear with the cod-end of 60 - 70 mm mesh. Totally, 17 vessels fished for 1,596 days and caught 16,179 tons of <u>Illex</u> accounting for around 90 % of Japanese total catch from this subarea. The majority (77 %) of the squid catch was taken from Div. 4X in this year, though the most of the <u>Illex</u> catch was caught in Div. 4Vs and 4W in 1978 and 1979. A more detailed discription on the status of Japanese squid fishery is given in a separate paper (NAFO SCR Doc. 81/VI/30).

The argentine fishery was carried out from July to November on and along the southern edge of the Scotian Shelf. The direct fishery for argentine was made by the vessels which switched occasionally from the squid fishery. The fishing gears were almost the same as those for squid fishery. A total of 1,521 tons of argentine, including the incidental catch by squid fishery, was taken from this subarea in 1980, and around 90 % of the fish were obtained from Div. 4X.

#### B. Special Research Studies

# Estimation of the abundance index of Illex during 1980 fishing season on the southern edge of the Scotian Shelf

This study was made to get some information available for the abundance estimation of <u>Illex</u> squid in the most important fishing grounds for Japanese trawlers. The abundance index was estimated from the haul-by-haul catch and effort data in September reported from all Japanese commercial trawlers engaging in squid fishery. The calculation was made on the basis of the standardized values of catch rate by half-a-degree square blocks and by depth zones composed of seven depth strata within a depth range of 70 - 200 fathoms. The abundance index in 1980 was the lowest of the latest three years, and it was about one seventh of the value in 1979 and one third of that in 1978. The full description of this study and the results obtained are shown in a separate paper (NAFO SCR Doc. 81/VI/31).

# III. SUBAREA 5

- C. C

### A. Status of the Fisheries

Both of the Loligo and <u>filex</u> fisheries were carried out by Japanese trawlers in 1980. The vessels operated using either bottom or offbottom gear with the 45 - 60 mm mesh cod-end. Japanese total fishing effort increased from 419 days in 1979 to 720 days in 1980, and the total catch showed a substantial increase from 1,755 tons in 1979 to 4,651 tons in 1980.

The Loligo fishery was made from January to march and also from November to December along the southern edge of the Georges Bank in Div. 5Ze and 5Zw. A total of 3,540 tons of Loligo was caught mainly in the earlier season from January to March, which was about three times of that in 1979 and accounted for 76 % of the total species catch in 1980 from this subarea.

A small-scale <u>Illex</u> fishery was carried out in November and December, and merely 113 tons of <u>Illex</u> squid, including the incidental catch by Loligo fishery, was reported from this subarea in 1980.

IV. STATISTICAL AREA 6

## A. Status of the Fisheries

Both of <u>Loligo</u> and <u>Illex</u> fisheries were performed from January to March, July to August and November to December. The vessels used the bottom or off-bottom gear with the cod-end of 45 - 60 mm mesh in the same way as those in Subarea 5. The total catch slightly increased from 5,672 tons in 1979 to 5,851 tons in 1980, though the fishing effort decreased slightly from 1,032 days in 1979 to 938 days in 1980.

The <u>loligo</u> fishery was carried out in winter (January to March and November to December). A total of 2,494 tons of <u>Loligo</u> squid, including the incidental catch by <u>Illex</u> fishery, was caught, and it was 1.2 times of the catch of the previous year and occupied 43 % of the total species catch in 1980 from this subarea.

The <u>Illex</u> fishery was made from July to August and again from November to December mainly in Div. 6B. The <u>Illex</u> catch decreased from 2,964 tons in 1979 to 2,297 tons in 1980, and <u>Illex</u> catch in 1980 accounted for 39 % of total species catch from this subarea. Table 1. Historical series data on catch(1,000 tons) and fishing effort by Japanese traw1 and squid jigging fisheries in the ICNAF/NAFO waters, 1968 - 1980.

llex Total	1.7 11.3	0.6 19.7	0.5 37.9	0.2 43.3	2.4 33.7	1.1 40.9	3.6	3.4 24.9	6.2 26.1	7.8 25.3	7.9 14.7	6.8 34.6	/.0 3.8 41.6	8.6 29.7	
Loligo I	0.2	7.1	13.2	<b>11.4</b>	15.9	14.5	13.4	11.2	5.2	7.8	2.9	3.2 20	3.2	6.0 <u>1</u> (	
Butter- fish	3.5	ດໍ	8°6	2.8	8°.	12.2	4.6	4.2	7.9	1.7	0.7	0.3	0.3	0.7	
Red- fish	<b>1.</b> 4	<b>6</b> .0	9°°	ထ ထိ	3.7	4.7	8°0	0.1	0.1	0.2	0.4	0.7	0.7	1.0	
Capelin			1	1	1	1	2 . 1 .	3° 30	5.1	5.1	0°8	1	1	1	
Argen- tine	1.3	2.3	4.1	9.1	0.7	0.4	0.6	0.2	0.4	2.1	1.5	2.4	2.4	1-2	
Herring	0.2	0.6	1.5	3.2	2.7	2.8	3.4	2.1	6.0	0.0	0.0	1	1 1.		th Canada
Silver hake	0.2	0.5	0.5	0.3	0.5	0.5	0.2	0.1	0.1	0.1	0.3	6.0	- 0	6.0	Fishery wi
Days fished	537	1,356	2,150	2,227	1,901	2,804	2,731	2,293	3,209	2,741	2,160	2,852	3,435	3, 390	-operative
Type of fishery	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Trawl	Total	Trawl	iding the Co
Year	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	+ 0 1 0 1	די / י י	1980**	* inclu

\*\* including the Canadian quota transfered to Japan

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# Table 2. Provisional catch (tons) and fishing effort (days fished) statistics in 1980 for Japanese trawl fishery.

Effort Illex Total Effort		-							the second se					
Illex Total Effort		<u> </u>			-		-	-,	1. <b>-</b> 1	- '	·	-	- 1	<sup>.</sup> 7
Total Effort			- 1	-		· _	-	-	-	-	2 <u>4</u> -11	· · ·	-	91
Effort			-	-	-		1 . <b>.</b>			-	-	-	-	91
Cod		5	12	27	62	27	-	·	-	-	-	· · · ·	133	157
cou	_	-	1	9	2.3	. 3	· _	-	- 1	- '	· _ · ·		36	74
Redfish		34	109	197	449	187	·		·	- `		-	976	636
Others	-	-		1	12	5	· -					-	17	62
Total	-	34	110	206	484	196	-	-	-		د , ` <del>ــ</del>		1029	772
Effort	-	-	-	-		·	-	-	· – .	- 1	· -,	-		1
Illex	-	$\gamma^{(1)} = \gamma$	-	- 1	-	, j <sup>a</sup> -		-	-		-			14
Total	<u> </u>					-	_		. <del>.</del>	-	-			14
Effort	-	·	- 1	-	·	· -	-	3	-	· –	-	-	3	83
Redfish	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			-	-	- 1	÷	0	-	-	_	-	0	2
Illex	- <sup>1</sup>	, · <del>-</del>	<del>-</del> · .	-	-	· –		0	-			- 1	0	1264
Others	-	1 <u>-</u>	-	-			-	3		· -	-	- 1	3	7
Total	-			-	-	-	· ••	3	- :					1273
Effort	-	-		-		-	· · · - ·	_	-	-		-	-	166
Illex	-	-		· -	-	-	· · · · ·	-	-	-	-		. <del>-</del> -	2126
Total	-		-	-	_	· _		-	-		-	-		2126
Effort			-	-	· · ·	- -	2	1	3	1	-	-	7	509
Argentine	-	-	-		-	<del></del>	7	0	0	-	· · ·	-	7	532
Illex	-	- 1	÷.,	-	-		5	1	0	0	-	- <del>-</del> -	6	1065.4
Others		-	÷	-	-	1. T		- 4 - E	-	0 ·	_	_	4 17	11216
									 					11210
Effort	-			-	-		39	289	.54	21	22		411	029
S. hake		· · · · -	2	· . ·		-	. 6	56	4	2	8.	-	/6	162
Argentine	_	-	_	: I	_		354	2928	5 223	50	142	· _	3695	15158
Others	-	_		·		· · · <u>-</u>	2	18	3	1	5	· -	31	13136
Total	-	1 <u>-</u> 4	-	-	-	- '	373	3108	235	63	172		3951	15796
Effort	-	<del>-</del> ;	-	-	-	-	18	215	411	398	136	-	1178	233
S. hake		· · · _ ·		, '· _	1 i <u>-</u> 1	· _ ·	3	25	65	51	20		163	7
Argentine	-	· · -	-		-		89	364	445	417	50	-	1366	1413
Illex		· -	-	-	-	-	38	2711	4575	3815	1340	_	12478	1424
Others	-	-	-	-	, <sup>1</sup> - 1	-	9	23	53	53	67	-	206	18
Total	-	-		-	-	-	139	3123	5138	4336	1477	-	14212	2862
Effort	-	5	12	27	62	27	59	508	448	426	158	-	1732	1984
Cod	- 1	-	1	9	23	3	1	4	2	2	5	<u> </u>	51	76
S. hake	-	-	· - · ·	- 1	- 1		9	81	69	54	28	-	239	183
Redfish	-	34	109	197	447	187	-	2	3	12	5	-	999	650
Argentine	-	-	-		-		107	470	450	427	67	-	1521	2406
111ex		-	·		-		397	5640	4797	3864	1482	-	16179	30730
Total	_	34	110	206	184	196	10 523	6230	52	41	1649		10212	3/1/0
	Total Effort Illex Total Effort Redfish Illex Others Total Effort Illex Total Effort Argentine Illex Others Total Effort S. hake Argentine Illex Others Total Effort S. hake Argentine Illex Others Total Effort S. hake Argentine Illex Others Total Effort S. hake Argentine Illex Others Total Effort S. hake Argentine Illex Others Total Effort Cod S. hake Redfish Argentine Illex Others Total	Total-Effort-Illex-Total-Effort-Redfish-Illex-Others-Total-Effort-Illex-Total-Effort-Illex-Total-Effort-Argentine-Illex-Others-Total-Effort-S. hake-Argentine-Illex-Others-Total-Effort-S. hake-Argentine-Illex-Others-Total-Effort-Cod-S. hake-Redfish-Argentine-Illex-Others-Illex-Others-Total <t< td=""><td>Total   -   34     Effort   -   -     Illex   -   -     Total   -   -     Effort   -   -     Redfish   -   -     Illex   -   -     Redfish   -   -     Total   -   -     Effort   -   -     Total   -   -     Effort   -   -     Total   -   -     Effort   -   -     S. hake   -   -     Argentine   -   -     Total   -   -     Effort   -   -     S. hake   -   -     Argentine   -   -     Total   -   -     Effort   -   5     Cod   -   -  <t< td=""><td>Total   -   34   110     Effort   -   -   -     Illex   -   -   -     Total   -   -   -     Effort   -   -   -     Redfish   -   -   -     Illex   -   -   -     Others   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Total   -   -   -     Total   -   -   -     Total   -   -   -     S. hake   -   -   -     Argentine   -   -   -     Total   -   -   -     S. hake   -   -   -</td><td>Total   -   34   110   206     Effort   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Redfish   -   -   -   -   -     Illex   -   -   -   -   -     Others   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Total   -   -   -   -   -     Total   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -     Total</td><td>Total   -   34   110   206   484     Effort   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Redfish   -   -   -   -   -     Illex   -   -   -   -   -     Others   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Total   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -   -     Illex   -   -   -   -   -   -     S. hake   -   -   -   -</td><td>Total   -   34   110   206   484   196     Effort   -   -   -   -   -   -     Illex   -   -   -   -   -   -     Total   -   -   -   -   -   -     Redfish   -   -   -   -   -   -     Redfish   -   -   -   -   -   -     Others   -   -   -   -   -   -     Total   -   -   -   -   -   -   -     Total   -   -   -   -   -   -   -   -     Effort   -   -   -   -   -   -   -   -     Total   -   -   -   -   -   -   -   -     Illex   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -</td><td>Total   -   34   110   206   484   196   -     Effort   -   -   -   -   -   -   -     Illex   -   -   -   -   -   -   -   -     Effort   -   -   -   -   -   -   -   -     Redfish   -   -   -   -   -   -   -   -     Others   -   -   -   -   -   -   -   -     Total   -   -   -   -   -   -   -   -   -   -     Illex   -</td><td>Total   -   34   110   206   484   196   -   -     Effort   -</td><td>Total     -     34     110     206     484     196     -     -     -       Effort     -</td><td>Total   -   34   110   206   484   196   -   -   -   -     Effort   -</td><td>Total   -   34   110   206   484   196   -   -   -   -   -     Effort   -</td><td>Total   -   34   110   206   484   196   -</td><td>Total   -   34   110   206   484   196   -   100   0   -</td></t<></td></t<>	Total   -   34     Effort   -   -     Illex   -   -     Total   -   -     Effort   -   -     Redfish   -   -     Illex   -   -     Redfish   -   -     Total   -   -     Effort   -   -     Total   -   -     Effort   -   -     Total   -   -     Effort   -   -     S. hake   -   -     Argentine   -   -     Total   -   -     Effort   -   -     S. hake   -   -     Argentine   -   -     Total   -   -     Effort   -   5     Cod   -   - <t< td=""><td>Total   -   34   110     Effort   -   -   -     Illex   -   -   -     Total   -   -   -     Effort   -   -   -     Redfish   -   -   -     Illex   -   -   -     Others   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Total   -   -   -     Total   -   -   -     Total   -   -   -     S. hake   -   -   -     Argentine   -   -   -     Total   -   -   -     S. hake   -   -   -</td><td>Total   -   34   110   206     Effort   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Redfish   -   -   -   -   -     Illex   -   -   -   -   -     Others   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Total   -   -   -   -   -     Total   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -     Total</td><td>Total   -   34   110   206   484     Effort   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Redfish   -   -   -   -   -     Illex   -   -   -   -   -     Others   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Total   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -   -     Illex   -   -   -   -   -   -     S. hake   -   -   -   -</td><td>Total   -   34   110   206   484   196     Effort   -   -   -   -   -   -     Illex   -   -   -   -   -   -     Total   -   - 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  -     Effort   -</td><td>Total   -   34   110   206   484   196   -</td><td>Total   -   34   110   206   484   196   -   100   0   -</td></t<>	Total   -   34   110     Effort   -   -   -     Illex   -   -   -     Total   -   -   -     Effort   -   -   -     Redfish   -   -   -     Illex   -   -   -     Others   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Effort   -   -   -     Total   -   -   -     Total   -   -   -     Total   -   -   -     Total   -   -   -     S. hake   -   -   -     Argentine   -   -   -     Total   -   -   -     S. hake   -   -   -	Total   -   34   110   206     Effort   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Redfish   -   -   -   -   -     Illex   -   -   -   -   -     Others   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Total   -   -   -   -   -     Total   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -     Total	Total   -   34   110   206   484     Effort   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Redfish   -   -   -   -   -     Illex   -   -   -   -   -     Others   -   -   -   -   -     Total   -   -   -   -   -     Effort   -   -   -   -   -     Total   -   -   -   -   -     Illex   -   -   -   -   -     Total   -   -   -   -   -     S. hake   -   -   -   -   -   -     Illex   -   -   -   -   -   -     S. hake   -   -   -   -	Total   -   34   110   206   484   196     Effort   -   -   -   -   -   -     Illex   -   -   -   -   -   -     Total   -   -   -   -   -   -     Redfish   -   -   -   -   -   -     Redfish   -   -   -   -   -   -     Others   -   -   -   -   -   -     Total   -   -   -   -   -   -   -     Total   -   -   -   -   -   -   -   -     Effort   -   -   -   -   -   -   -   -     Total   -   -   -   -   -   -   -   -     Illex   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -	Total   -   34   110   206   484   196   -     Effort   -   -   -   -   -   -   -     Illex   -   -   -   -   -   -   -   -     Effort   -   -   -   -   -   -   -   -     Redfish   -   -   -   -   -   -   -   -     Others   -   -   -   -   -   -   -   -     Total   -   -   -   -   -   -   -   -   -   -     Illex   -	Total   -   34   110   206   484   196   -   -     Effort   -	Total     -     34     110     206     484     196     -     -     -       Effort     -	Total   -   34   110   206   484   196   -   -   -   -     Effort   -	Total   -   34   110   206   484   196   -   -   -   -   -     Effort   -	Total   -   34   110   206   484   196   -	Total   -   34   110   206   484   196   -   100   0   -

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Table 2. Continued.

Division	Species	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	1979 Total
	Effort	83	195	4		-	-	<u>-</u>	-	-	-	17	74	373	106
	S. hake	44	190	5			-, '	·	_	-	-	2	38	278	137
	Butterf.	10	12	5	1 <u>-</u> 1	-	· -	-		· · ·	-	1	6	34	9
52e	Illex	0	7		1 . <b>-</b> .	-	-	-		· · ·	_	30	50	86	62
	Loligo	486	1352	.4	_	· · ·	-	-		· _	-	8	411	2263	481
	Others	81	124	8	<u>-</u>	- i - j		· -	-	· · -		0	38	250	35
	Total	621	1685	22		-	, <sup>1</sup> -	-	<del>.</del>	, <del>-</del> 1 -	-	40	543	2911	724
	Effort	154	103	41	· · · · -	-	-	- -	1			12	36	347	313
	S. hake	32	8	56		· _ ·	1. <u> </u>	· _	· · ·	· · _		_	1	97	96
	Butterf.	52	67	58	-		· _ ·	_		· · · ·	-	12	51	239	100
52W	Illex	· · 7.	10	0.	·	-	-	-	2	· – .	· · - ·	5	· · · 3	27	74
	Loligo	532	495	149					2 - <u>-</u> -	-	-	14	87	1277	681
	Others	38	23	33.	· ·		- 1 j. <del>-</del> 1 i		. <del>-</del> ·	- j	. · -,	1	3	99	80
	Total	661	603	296	<b>-</b> [.		lin a <del>n</del> a	_	2	<del>.</del> .,	- 14	32	145	1740	1031
	Effort	64	56	104	-	-	-	1	1	-	-	11	79	316	498
	S. hake	4	6	68	2		-	· <u> </u>	0		<del>.</del> .	. 1	7	84	350
C N	Butterf.	16	44	211	- -	-	· -	· · · -	-	-		1	70	341	121
OA	Illex	5	14	5		-	-	1	4		· -	28	131	188	139
	Loligo	225	239	493	-	-	, <del>-</del> :	-		-	-	14	167	1138	1281
	Others	22	12	94	19 - 19 <del>1</del> 7 - 19	-		. 0	0			1	5	136	44
	Total	272	315	871				2	4			43	380	1886	1935
	Effort	41	8	49	: -	-	, <del>-</del> 1	74	14	-	-	164	248	598	502
	S. hake	9	0	1		. <del>-</del> .	-	0	, <b>0</b> .	-		31	61	103	106
6В	Butterf.	0	0	24	-	-	-	-	-		. · •	8	13	45	23
	Illex	5	2	2	-			458	176		-	746	520	1909	2784
	Loligo	130	· · · · /	231			-			·		201	138	1347	46
	Total	162	12	315	- 1 - <u>-</u> -	<u>.</u> .	- <u>-</u> -	465	177.		· · · · ·	1028	1510	3670	3563
	Effort	-							<u> </u>			8	16	24	32
													2.2	EA	
	S. hake		이 가지 <mark>문</mark> 다.	14 2	_	_	_	- <u>-</u>	_	8 <u>.</u> .	· ·	1	2,5		1
	Butteri.	2	e nga		- <u>-</u>	- 14 <u> </u>	- -	_	_		_	. 53	147	200	39
6C	Loligo	_	· · · · ·		· _	_		-	· _	÷ _ *	-	2	8	9	124
	Others	t i j	1. A. – 1	a (12),	1.1.21		<u>-</u>		· · · ·	-	· _	12	17	30	1
	Total	-	7 1 <sup>1</sup> - 1	-	· . <del></del>	<del>.</del>		, <del>-</del>		·	<b>.</b> -	99	195	295	174
	Effort	342	362	198		-		75	16			212	453	1658	1451
Subarea	S. hake	89	204	130	1 <u>-</u> 1	11 <b>-</b> 1	-	0	0	· _ }	·	65	129	616	697
5	Butterf.	78	123	298	· -	- <sup>1</sup> -	· . · _ `	-				23	140	660	254
2017년 <b>-</b> 111년 111년 111년 111년 111년 111년 111년 11	Illex	17	33	.7	· -	-		459	182	-	-	862	851	2410	3098
Stat.Area	Loligo	1373	2093	877	- 1	-	, <del>-</del> .		·	-	-	239	1450	6034	3171
6	Others	159	162	192		- -	, <del>-</del> .	. 8	1	-	- 1	55	203	781	205
	Total	1716	2615	1504	-	-		467	183			1242	2773	10502	7425
	Effort	342	367	210	27	62	27	134	524	448	426	370	453	3390	3435
	Cođ	-	·	1	9	23	3	1	4	. 2	2	5.	· - ·	51	76
	S. hake	89	204	130	-	-	-	9	81	69	54	92	129	855	880
	Redfish	<b></b>	34	109	197	449	187	-	3	3	12	5	-	999	650
Grand	Butterf.	78	123	297	·	-	-	· -	-	-	-	23	140	660	254
Total	Argentine	· · ·		· · -	-	-	-	107	470	450	427	6/	-	10500	2400
	Illex	17	33	.8	· · ·			855	5821	4/93	3864	2344	1450	T020A	33828
	Loligo	13/3	2093	8/8		-		- 10	42		- 	239	203	1005	309
	Uthers	1716	162	1614	206	101	106	18	43 6122	5373	4400	2801	203	29717	41574
	Total	1/10	2049	1014	206	484	190	990	0423	5313	4400	2091	2113	23113	1 -1 - 1 / 4

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