## INTERNATIONAL COMMISSION FOR



THE NORTHWEST ATLANTIC FISHERIES

<u>Serial No. 3025</u> (G.a.)

ICNAF Res.Doc. 73/73

## ANNUAL MEETING - JUNE 1973

Nominal catch of squid in Canadian Atlantic waters \_\_\_\_\_\_(Subareas 2-4) 1920 to 1968

by

M. C. Mercer Fisheries Research Board of Canada Biological Station, St. John's, Nfld.

#### Introduction

The migratory ommastrephid squid <u>Illex illecebrosus</u> (LeSueur) has historically supported small summer and fall inshore fisheries at the northern end of its western Atlantic range, particularly at Newfoundland where recent annual landings have ranged from nil to 10,500 metric tons. The inshore fisheries are passive in that they are based on availability of squid to jigging devices (and to a much lesser extent, traps) in waters of less than about 20 m depth. However, in the past few years, large trawl fisheries for squid have developed in the ICNAF convention area. The 1971 ICNAF statistics for Subarea 3 show only 1 ton landed offshore (by Japan) with the remaining 1606 tons being Nfld. inshore landings. The situation is reversed in Subarea 4 where 7283 tons were landed offshore, mostly by the USSR, whereas inshore landings accounted for only 16 tons. In Subareas 3 and 4 <u>Illex illecebrosus</u> comprised the total catch as <u>Loligo pealei</u> does not range this far north (see Mercer, 1971). The landings of 11,368 and 10,842 tons in Subareas 5 and 6 respectively were mixed catches, nearly all trawled offshore and comprising mostly <u>Loligo pealei</u> taken in its wintering area; however an indeterminate part of this catch was <u>Illex illecebrosus</u>.

The following collation of Canadian catch statistics was abstracted completely from the monthly and annual "Fisheries Statistics of Canada" published by Statistics Canada (formerly Dominion Bureau of Statistics). Blank data fields in the area breakdowns indicate that no listings are given for squid in the "Fisheries Statistics". In such cases small squid landings are sometimes included under such headings as "Other Shellfish"; the total catches then obtained by adding across the columns are less than the listed total landings. Landings prior to 1938 are given in barrels; approximate conversion to pounds can be obtained by applying a factor of 200 lb/barrel.

## Newfoundland

A monthly breakdown is given for the period 1956-72 (Table 1) and an area breakdown for the period 1955-68 (Table 2). Detailed statistics are unavailable for earlier years but Squires (1957) gives an account of relative annual abundance.

### Nova Scotia

A breakdown by area for the period 1920-68 is given (Table 3).

### New Brunswick

Squid catch was listed as 0 in 1952. In 1955 landings of 1000 lb were given for Grand Manan Island (Bay of Fundy). In 1921-26 the only catches were listed as coming from Gloucester County (Districts 64-68), these being 20, 10, 5, 6, 5, 25 barrels respectively. For all other years 1920-72 no separate listings for squid were given.

## Prince Edward Island

The only listing for squid in 1920-72 was 500 lb taken in district 88 in 1946.

Quebec

A breakdown by area for the period 1920-68 is given (Table 4).

## ICNAF Area

As no area breakdowns are available for Newfoundland prior to 1955 summaries are not given for 3K, 3L, 3P and 4R in the breakdown by years prior to this date (Table 5). Discrepancies between the total landings for the Canadian Atlantic and those obtained by adding division totals are caused by occasional lumping of squid under such headings as "Other Molluscs" in the area totals used to compile the table. The relation of the Statistical Districts to the ICNAF Divisions is indicated in Appendix I.

### References

Mercer, M. C. 1970. Sur la limite septentrionale du calmar Loligo pealei LeSueur. Naturaliste Can. 97: 823-824.

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Year	July	August	September	October	November	December	Total
1956	1,565	6,088	5,882	3,197	104	0	17,150 (16,836)
1957	836	2,893	853	1,062	153	9	5,808 (5,806)
1 <b>9</b> 58	128	725	420	246	66	0	1,584 (1,585)
1959	3	714	2,264	3,199	109	0	6,289
1960	9	2,820	3,453	4,358	630	0	11,170 (11,270)
1961	900	6,681	5,399	5,557	1,240	0	19.777
1962	10	257	548	229	18	0	1.062
1963	0	941	1,609	1,568	854	0	4,972
1964	847	11,446	5,300	4,565	768	75	22,926
1965	731	5,421	4,623	5,656	768	0.3	17,199
1966	110	2,722	4,054	4,075	106	1	11.068
1967	543	4,164	1,877	6,113	2,526	0	15,222
1968	0	0	2	0	0	0	2
1969	0	9	37	2	0	0	48
1970	0	5	92	56	13	0	166
1971	357	1,635	3,057	439	51	0	5 539
1972	0	12	32	1	0	0	45

Table 1. Monthly breakdown of squid landings at Newfoundland 1956-72 ('000 lb). Where reported yearly totals do not agree with totals obtained by summing the reported monthly landings the latter totals are indicated in parentheses.

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Table 2. Breakdown of squid landings at Newfoundland 1955-68 ('000 1b) by statistical areas as delineated in Fig. 1.

Year	A	В	C	D	E	F	G	н	I	J	ĸ	L.	M	N	0	Total
1955	504	545	1.163	1.889	6.080	2 201	512	648	781	701	~ <u></u> ^	100	150	201		15 475
1956	267	1	2,107	1,956	9,141	2 957		667	701	101	ň	100	150	201	Ň	10,4/0
1957	153	689	653	1,011	2 012	965	26	211	0	47	Å	46	25	v	ů.	17,150
1958	24	4	297	325	472	144	20	200	15	1/	Ň	40	20	Ŭ,	Ŭ	5,808
1959	365	408	1 181	2 621	506	653	2	230	15	222	Ŭ	U U	0	U	U	1,584
1960	614	900	2 022	2,021	2 410	1 025	0	240	70	231	U	0	0	0	0	6,289
1061	504	1 250	2,033	2,400	3,418	1,025	53	550	139	132	0	0	0	0	0	11,170
1062	304	1,209	2,031	2,/15	8,14/	3,3/8	129	815	161	631	3	4	1	0	0	19,778
1902	40	74	3/	49	51	157	11	569	53	14	1	1	0	0	0	1,063
1903	121	158	517	1,806	842	301	31	700	48	448	0	0	0	0	0	4.972
1964	446	812	4,537	3,293	9,213	2,047	20	1,168	464	928	0	0	0	0	Ó	22,928
1965	523	842	2,513	2,179	7,965	977	13	1.625	119	443	0	Ŏ	Ō	ŏ	ō	17 199
1966	645	1,400	2,031	1,194	3,476	670	137	1,165	63	279	Ō	õ	ň	ō	ň	11,060
1967	573	654	2,509	3,236	6.329	253	108	1,139	24	397	ñ	ก้	ň	ň	ň	15 222
1968	0	2	0	0	0	0	0	0	0	0	ŏ	Ő	ŏ	ŏ	Ö	2

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Table 3	Year Year	1920 1921 1922 1924 1925 1926 1928 1928 1938 1938 1938 1938 1938 1938 1938 193	1946 1947 1948 1949 1950 1951	1953 1954 1955 1955 1957 1958 1958 1960 1962	1964 1965 1967 1967	acole Ha

Table 4. Breakdown for squid landings at Quebec 1920-68 ('000 1b 1938-68 and barrels 1920-37) by statistical areas as delineated in Fig. 3. When listed totals do not coincide with landings obtained by totalling the landings by area the

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	Dist. Year	1920 1921 1925 1925 1926 1926 1926 1933 1933 1938 1938 1938 1938 1938 1938	1944 1945 1945 1948 1949 1950	1952 1953 1955 1955	1958 1959 1961	1962-63 1964 1965-68	<sup>a</sup> From Saguer

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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Div. Year	ЗК	3L	3P	4R	<b>4</b> S	4T	4Vn	4W	4X	Total
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1920				·	119	3,265	7	1,486	73	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1921					5	8,031	9	4,171	106	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1922					70	5,196	34	1,206	.165	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1923					32	3,227	85	5,090	46	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1924					162	1,843	67	1,659	49	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1925					109	4,549	402	6,096	1,383	
	1926					640	8,667	855	4,160	7,609	
	1 <b>927</b>					410	1,570	72	867	257	
	1928					621	2,207	27	1,063		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1929					28	3,296	555	1,178	240	
	1930					7	1,636	0	4,900	29	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1931					8	1,252	420	23	10	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1932					16	748	32	315	190	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1933					7	411	0	2,922	80	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1934					10	472	0	203	2	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1935					9	1,357	51	2,221	80	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1936					7	1,453	40	3,169	210	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1937					12	85	0	462	95	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1938					18	89	5	127	9	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1939					0	60	6	320	0	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1940					0.4	119	79	338	0	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1941					0	53	0	460	0	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1942					0	<sup>-</sup> 39	0	22	0	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1943					0	3	0	11	2	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1944					0	12	0	58	12	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1945					0	107	0	45	0	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1946					0.4	161	226	372	110	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1947					-	98	52	312	-	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1948					-	8	6	76	-	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1949					-	0	0	29	-	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1950					-	59	60	188	-	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1951					-	27	42	55	-	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1952					1	5	165	20	22	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1953					1	20	39	46	7	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1954					1	52	148	53	0	
195626816,1617210279662246418,203(18,143)19578474,64122871253182363686,487 (6,455)1958281,240316034217421,76919597734,96954700171853316,85819601,4148,9358210471923011,260(11,223)19611,76316,4001,6078072864319,884(19,880)19621203056362053323531471,64819632793,4971,1960073210245,21619641,25819,1102,560009275473523,755(23,690)19651,36513,6472,18700133551317,578(17,571)19662,0457,5081,507002120100211,287(11,284)19671,22712,4351,560002912212215,478(15,477)196820000111426(18)	1955	1,049	11,845	2,130	451	2	42	58	26	15	15,673(15,618)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1956	268	16,161	721	_0	2	79	662	246	4	18,203(18,143)
1958281,240316034217421,76919597734,96954700171853316,85819601,4148,9358210471923011,260(11,223)19611,76316,4001,6078072864319,884(19,880)19621203056362053323531471,64819632793,4971,1960073210245,21619641,25819,1102,560009275473523,755(23,690)19651,36513,6472,18700133551317,578(17,571)19662,0457,5081,507002120100211,287(11,284)19671,22712,4351,560002912212215,478(15,477)196820000111426(18)	1957	847	4,641	228	71	2	53	182	363	68	6,487 (6,455)
1959 $773$ $4,969$ $547$ $0$ $0$ $17$ $18$ $533$ $1$ $6,858$ $1960$ $1,414$ $8,935$ $821$ $0$ $4$ $7$ $19$ $23$ $0$ $11,260(11,223)$ $1961$ $1,763$ $16,400$ $1,607$ $8$ $0$ $7$ $28$ $64$ $3$ $19,884(19,880)$ $1962$ $120$ $305$ $636$ $2$ $0$ $53$ $32$ $353$ $147$ $1,648$ $1963$ $279$ $3,497$ $1,196$ $0$ $0$ $7$ $3$ $210$ $24$ $5,216$ $1964$ $1,258$ $19,110$ $2,560$ $0$ $0$ $9$ $275$ $473$ $5$ $23,755(23,690)$ $1965$ $1,365$ $13,647$ $2,187$ $0$ $0$ $1$ $3$ $355$ $13$ $17,578(17,571)$ $1966$ $2,045$ $7,508$ $1,507$ $0$ $2$ $120$ $100$ $2$ $11,287(11,284)$ $1967$ $1,227$ $12,435$ $1,560$ $0$ $0$ $29$ $12$ $212$ $2$ $15,478(15,477)$ $1968$ $2$ $0$ $0$ $0$ $0$ $1$ $11$ $4$ $26$ $(18)$	1958	28	1,240	316	0	3	.4	2	174	2	1,769
19601,4148,9358210471923011,260(11,223)19611,76316,4001,6078072864319,884(19,880)19621203056362053323531471,64819632793,4971,1960073210245,21619641,25819,1102,560009275473523,755(23,690)19651,36513,6472,18700133551317,578(17,571)19662,0457,5081,507002120100211,287(11,284)19671,22712,4351,560002912212215,478(15,477)196820000111426(18)	1959	773	4,969	547	0	0	17	18	533	1	6,858
1961       1,763       16,400       1,607       8       0       7       28       64       3       19,884(19,880)         1962       120       305       636       2       0       53       32       353       147       1,648         1963       279       3,497       1,196       0       0       7       3       210       24       5,216         1964       1,258       19,110       2,560       0       0       9       275       473       5       23,755(23,690)         1965       1,365       13,647       2,187       0       0       1       3       355       13       17,578(17,571)         1966       2,045       7,508       1,507       0       0       2       120       100       2       11,287(11,284)         1967       1,227       12,435       1,560       0       0       29       12       212       2       15,478(15,477)         1968       2       0       0       0       0       1       11       4       26       (18)	1960	1,414	8,935	821	0	4	7	19	23	0	11,260(11,223)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1961	1,763	16,400	1,607	8	0	7	28	64	3	19,884(19,880)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1962	120	305	636	2	0	53	32	353	147	1,648
1964       1,258       19,110       2,560       0       0       9       275       473       5       23,755(23,690)         1965       1,365       13,647       2,187       0       0       1       3       355       13       17,578(17,571)         1966       2,045       7,508       1,507       0       0       2       120       100       2       11,287(11,284)         1967       1,227       12,435       1,560       0       0       29       12       212       2       15,478(15,477)         1968       2       0       0       0       0       1       11       4       26<(18)	1963	279	3,497	1,196	Ō	Õ	7	3	210	24	5,216
1965       1,365       13,647       2,187       0       0       1       3       355       13       17,578(17,571)         1966       2,045       7,508       1,507       0       0       2       120       100       2       11,287(11,284)         1967       1,227       12,435       1,560       0       0       29       12       212       2       15,478(15,477)         1968       2       0       0       0       0       1       11       4       26       (18)	1964	1,258	19,110	2,560	Q	0	9	275	473	5	23,755(23,690)
1966 $2,045$ $7,508$ $1,507$ $0$ $0$ $2$ $120$ $100$ $2$ $11,287(11,284)$ $1967$ $1,227$ $12,435$ $1,560$ $0$ $0$ $29$ $12$ $212$ $2$ $15,478(15,477)$ $1968$ $2$ $0$ $0$ $0$ $0$ $1$ $11$ $4$ $26$ $(18)$	1965	1,365	13,647	2,187	Õ	0	1	3	355	13	17,578(17,571)
1967 $1,227$ $12,435$ $1,560$ $0$ $29$ $12$ $212$ $2$ $15,478(15,477)$ $1968$ $2$ $0$ $0$ $0$ $1$ $11$ $4$ $26$ $(18)$	1966	2,045	7,508	1,507	Ō	0	2	120	100	2	11,287(11,284)
1968 2 0 0 0 0 0 1 11 4 26 (18)	1967	1,227	12,435	1,560	0	0	29	12	212	2	15,478(15,477)
	1968	2	0	O	Q	U	U	ł	11	4	26 (18)

Table 5. Breakdown of squid landings by ICNAF Divisions 1920-68 ('000 lb except prior to 1938 when landings are given in barrels). Where reported yearly totals for the Canadian Atlantic do not agree with totals obtained by summing the division totals the latter are indicated in parentheses.



- 8 -

Fig. 1. Newfoundland sea fisheries statistical areas.



Fig. 2. Maritime sea fisheries districts.



Fig. 3. Quebec sea fisheries districts.

# Appendix I

- 10 -

ICNAF Divisions	Statistical Districts
3К	Nfld. Districts A and B (including section l of A which actually in 4R. Landings here are approximately nil.)
3L	Nfld. Districts C, D, E, F, G
3P	Nfld. Districts H, I, J (and section 50 of K which actually in $4R$ )
4R	Nfld. Districts K, L, M, N
4S	Quebec Districts 18* (part), 19-25
<b>4</b> T	Maritimes Districts 2, 3, 11-13, 43b, 45, 46, 63-68, 70, 73, 75-78, 80 (80a), 82, 83, 85-88
	Quebec Districts 1-17, 18* (part), 26-28
4Vn	Maritimes Districts 1, 4, 6, 7
4W	Maritimes Districts 8, 9, 14-21
4X	Maritimes Districts 22, 23, 25-28, 30-34, 36-40, 42, 43a, 44, 48-53, 55-61, 79, 80b

\*Quebec statistical area 18 is partly in Division 4S and partly in 4T; landings have been assigned on a 50: 50 basis.