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Recent trends in the Argentine (*Argentina silus*) fishery

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The Argentine fishery in the NAFO Statistical area began in 1963 (table 1). From 1963-68 the fishery was carried out mainly by the USSR with a peak catch in 1966 of 49,040 t. Following this, catches declined due to the dispersion of schools and Argentine was taken as a by-catch in the Silver hake fishery (ICNAF Redbook Pt II, 1970, 1972, 1973). Catches increased again in 1971 and were as high as 37,736 t in 1974 before falling in 1977. Since 1977 the Argentine fishery has been mainly a by-catch fishery with catches averaging 2,400 t.

The fishery has been carried out almost exclusively in Subareas 4 and 5 with catches in Subarea 5 dominating until 1975 (table 2). Catches in Subarea 4 came mainly from the eastern edge of Georges Bank while those in Subarea 5 have come from Division 4WX in the areas of Browns and Emerald Banks (table 3). Various effort restrictions such as the closure of haddock spawning grounds in Division 4X and the small mesh gear line have limited fishing effort to areas outside the typical Argentine distribution. Thus information on the status of Argentine stocks have been difficult to obtain.

Size Composition

Argentine length frequency data for recent years is available from 2 sources - the International Observer Program (IOP) of Fisheries and Oceans Canada and from Canadian Research vessel surveys. There is good agreement between the length distributions from the 2 sources (figure 1). The 1979 length frequencies show bi-modality with modes at 22 cm and 29 cm in the research vessel samples and 23 cm and 31 cm in the IOP samples. In 1978 1 mode is evident at 28 cm in the research data and 26 cm in the IOP data. In 1979 2 modes are again evident in the 2 data sources.

The shift in the dominant mode from 1977 to 1978 is typical of the growth of a single year class. The modes correspond with age 4 and 5 fish respectively according to the data of Emery and McCracken, 1966.

The length frequencies for 1977-79 indicate a greater abundance of smaller fish than in the fishery of 1970-71 (Japanese research report, ICNAF Redbook pt. II, 1970, 1971). Modal lengths in 1970-71 were 30-32 cm with few fish in the 21-23 cm range.

This could be due to a difference in the area of the fishery in recent years where in 1970-71 Argentine were taken in a directed fishery and now they are taken as by-catch at relatively shallow depths. Emery and McCracken 1966 show that the length of Argentine decreases with fishing depth. Alternatively the present data may indicate the recruitment of a large year class, possibly

from 1973. Argentine become fully recruited at age 7-9 (Halliday, 1974), Shevchuk, 1973) and this potentially large year-class may now be available to the adult fishery.

References

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Table 1. Argentine landings from the NAFO Statistical Area by Country (t)

YEAR	C O U N T R Y						TOTAL
	USSR	F.R.G.	JAPAN	CUBA	MISC.	UNKNOWN	
1963	12,337	-	-	-	-	-	12,337
1964	17,773	13	-	-	-	-	17,786
1965	15,064	-	-	-	-	-	15,064
1966	49,040	-	-	-	-	-	49,040
1967	7,015	-	42	-	65	-	7,122
1968	4,184	-	1,274	-	-	-	5,458
1969	5,707	-	2,338	-	28	5	8,078
1970	2,614	-	4,100	-	1	10	6,725
1971	5,535	-	9,003	-	2	-	14,540
1972	38,127	-	710	-	-	-	38,837
1973	3,691	-	408	-	-	-	4,099
1974	37,172	-	557	-	7	-	37,736
1975	16,052	-	56	-	65	-	16,173
1976	6,895	-	384	112	104	-	7,495
1977	219	136	2,115	15	4	-	2,489
1978*	330	101	1,547	21	-	-	1,999
1979*	232	-	2,407	1	1	-	2,641

* preliminary statistics.

Table 2. Argentine landings by NAFO subarea (t)

YEAR	ICNAF SUBAREA						TOTAL
	1	2	3	4	5	6	
1963	-	-	-	8,127	4,210	-	12,337
1964	13	-	-	4,943	12,830	-	17,786
1965	-	-	-	5,611	9,453	-	15,064
1966	-	-	119	14,983	33,938	-	49,040
1967	-	-	825	4,271	2,026	-	7,122
1968	-	-	449	2,675	1,481	853	5,458
1969	-	5	106	5,354	2,608	5	8,078
1970	-	-	793	4,553	1,369	10	6,725
1971	-	-	532	6,715	7,293	-	14,540
1972	-	-	262	5,868	32,707	-	38,837
1973	-	-	138	1,449	2,512	-	4,099
1974	-	-	545	17,496	19,695	-	37,736
1975	-	-	16	14,691	1,398	68	16,173
1976	-	-	163	7,010	322	-	7,495
1977	-	-	-	2,489	-	-	2,489
1978*	100	-	-	1,899	-	-	1,999
1979*	-	-	1	2,640	-	-	2,641

* preliminary statistics

Table 1. Argentine (A. Sillus) Landings from NAFO Subarea 4 by Division and Country

YEAR	ICNAF DIVISION					TOTAL	COUNTRY						
	4Vh	4Vs	4W	4X			USSR	GDR	JAPAN	CUBA	MISC.		
1963	1		7,399	727		8,127	8,127	-	-	-	-	-	-
1964	1	-	2,337	2,605		4,943	4,943	-	-	-	-	-	-
1965	161	-	5,425	25		5,611	5,611	-	-	-	-	-	-
1966	358	-	5,929	8,696		14,983	14,983	-	-	-	-	-	-
1967	6	-	92	4,093		4,271	4,191	-	42	-	-	-	38
1968	-	450	878	261		2,675	1,589	-	1,086	-	-	-	-
1969	-	1,151	2,729	218		5,354	4,075	23	1,256	-	-	-	-
1970	-	133	1,530	2,890		4,553	1,615	-	2,938	-	-	-	-
1971	-	511	2,566	3,638		6,715	3,555	-	3,160	-	-	-	-
1972	-	446	2,085	3,337		5,868	5,412	-	456	-	-	-	-
1973	-	95	736	618		1,449	1,233	-	216	-	-	-	-
1974	-	160	10,766	6,570		17,496	17,484	-	12	-	-	-	-
1975	-	2	8,068	6,621		14,691	14,651	-	40	-	-	-	-
1976	-	3,912	2,314	784		7,010	6,631	-	207	112	-	60	-
1977	-	8	1,239	1,242		2,489	219	-	2,115	15	-	140	-
1978*	-	158	435	1,306		1,899	330	-	1,547	21	-	1	-
1979*	-	532	606	1,502		2,640	232	-	2,407	1	-	-	-

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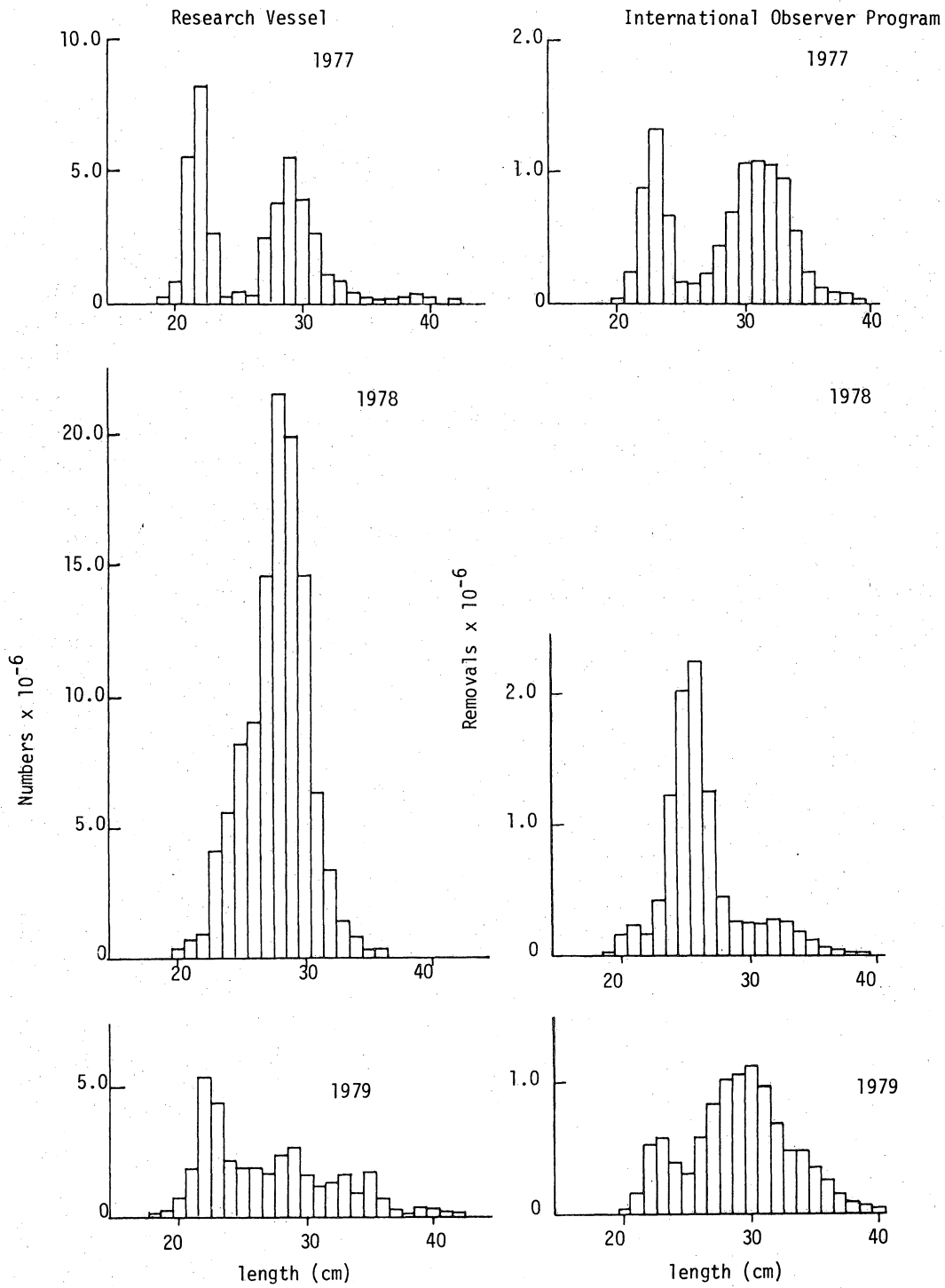


Fig. 1 Argentine length frequencies from research vessel surveys and the commercial fishery.