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Update on 4VWX Argentine

by

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Abstract

Catches in 1981 and 1982 were the lowest in the history of the fishery due to reduced effort by the Japanese fleet. Abundance estimates from Canadian research vessel surveys continue to indicate that stock size is stable.

Résumé

Les prises de 1981 et 1982 ont été les plus faibles jamais enregistrées, résultat d'une diminution de l'effort de pêche de la flottille japonaise. Les relevés par navires de recherche canadiens donnent des estimations d'abondance qui indiquent que l'effectif de stock continue d'être stable.

The most recent review of available information on argentine was provided by Koeller (1982). It was concluded that decreased catches since 1976 are due to regulatory measures involving the exclusion of the foreign fleet from areas of greatest abundance i.e. the slopes of Brown's Bank, and the Canada-U.S. disputed zone. Most argentine catches in recent years have been made along the slope of the Scotian Shelf by Japanese trawlers during their squid fishery. The further substantial decrease in the 1981 catch was attributed to a poor squid season and an early departure of the fleet. Research vessel surveys indicated that the stock size is now stable or increasing but that substantial decreases occurred in the past during years of peak catches. Previous estimates of stock biomass were probably optimistic, and arguments for TAC's of 20,000 metric tons (M.T.) included the areas of abundance which are now under regulation. These considerations, together with continued uncertainties of stock status and the acknowledged vulnerability of the species to overfishing, resulted in a recommendation to limit catches to 10,000 M.T. in 1983.

Results and Discussion

Total catches in Subarea 4 during 1982 (Table 1) were only slightly higher than in 1981, the year in which the lowest catch in the history of the fishery was recorded. No catches were taken in Subareas 5 & 6, because of continuing regulation. Directed effort by the Japanese fleet virtually ceased in 1982, again due to a poor squid season, resulting in an almost 50% reduction in the Japanese catch from the previous year (Table 2). Argentine catches by USSR and Cuban trawlers increased from 1981 presumably due to increased bycatches in the silver hake fishery.

Trawlable biomass estimates from Canadian standard stratified surveys in Divisions 4V, W and X (Table 3) indicate a stable population. Both spring and fall U.S. survey estimates for 1982 were low (Table 4), but results from these surveys are probably less reliable because coverage is limited to the Fundian Channel. Population estimates by length from Canadian seasonal surveys from 1979-82 shows the progression of a strong year class (or year classes) through the population beginning in March 1979 at a mode of 19 cm (Fig. 1). Large numbers of small fish in the most recent cruises suggests that recruitment is good.

Conclusion

There is no new information available on which to advise a change in the 1982 advice for limitation of catch to 10,000 M.T.

Reference

Koeller, P. A. 1982. MS 4VWX Argentine. CAFSAC Research Document #82/12 24 p.

Table 1. Argentine landings by NAFO subarea (M.T.).

Year	N A F O S U B A R E A						Total
	1	2	3	4	5	6	
1963	-	-	-	8,127	4,210	-	12,337
1964	13	-	-	4,943	12,830	952	18,738
1965	-	-	-	5,611	9,453	166	15,230
1966	-	-	119	14,983	33,938	-	49,040
1967	-	-	825	4,271	2,026	-	7,122
1968	-	-	448	2,678	1,522	853	5,501
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	1,444	2,512	-	4,094
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	-	-	1,897	-	-	1,997
1979	228	-	-	2,640	-	-	2,868
1980	-	-	-	2,053	-	-	2,053
1981	19	-	-	369	-	-	388
1982*	-	-	-	417	-	-	417

*Preliminary statistics

Table 2. Argentine landings from the NAFO Statistical Area by Country (M.T.).

Year	C O U N T R Y						Total
	USSR	F.R.G.	Japan	Cuba	Misc.	Unknown	
1963	12,337	-	-	-	-	-	12,337
1964	18,725	13	-	-	-	-	18,738
1965	15,230	-	-	-	-	-	15,230
1966	49,040	-	-	-	-	-	49,040
1967	7,015	-	42	-	65	-	7,122
1968	4,184	-	1,317	-	-	-	5,501
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	-	403	-	-	-	4,094
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	1,545	21	-	-	1,997
1979	232	228	2,407	1	-	-	2,868
1980	528	-	1,521	4	-	-	2,053
1981	71	19	298	-	-	-	388
1982*	201	-	163	53	-	-	417

*Preliminary statistics.

Table 3. Trawlable biomass estimates of argentine on the Scotian Shelf from (a) A.T. Cameron stratified surveys in July (M.T.) and (b) Lady Hammond seasonal surveys.

(a)	Area	A r e a			Total
		Fundian Channel Str 80-85, 91	Central Shelf Str 60-63, 65, 70-72, 77, 78	4VS Str 46, 49, 50-54	
	1970	4,637	768	78	5,483
	1971	3,236	1,705	623	5,564
	1972	618	170	183	971
	1973	1,081	1,318	127	2,526
	1974	1,085	1,591	104	2,780
	1975	242	135	188	565
	1976	1,806	244	0	2,050
	1977	5,622	2,288	5	7,915
	1978	1,293*	1,603	11	2,907
	1979	4,047	3,264	108	7,419
	1980	3,065	556	71	3,692
	1981	4,202	1,735	83	6,020
	\bar{X}	2,578	1,281	132	3,991
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(b)	Spring '79	271	209	0	480
	Fall '79	3,135	565	22	3,722
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	Spring '80	1,952	1,285	20	3,257
	Fall '80	3,407	847	24	4,278
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	Spring '81	327	2,293	231	2,851
	Fall '81	1,449	1,358	206	3,013
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	Spring '82	1,647	2,792	111	4,550
	Summer '82	352	3,207	407	3,966

*or 24,900 including 1 large set.

Table 4. Catch/tow (kg) of argentine in strata 82-84 from U.S.A. stratified surveys.

<u>Year</u>	<u>Spring</u>	<u>Autumn</u>
1963	-	1.047
1964	-	0.050
1965	-	0.112
1966	-	0.053
1967	-	0.018
1968	0.54	0.049
1969	0.121	0.049
1970	1.993	0.088
1971	0.778	0.005
1972	0.119(a)	0.046
1973	0.250	0.036
1974	0.638	0.005
1975	0.547	0.067
1976	1.275	0.044
1977	0.867	0.506
1978	7.853	0.780
1979	0.322	1.318
1980	1.541	0.697
1981	7.150	0
1982	0.52	0.02

(a) Gear changed from #36 to #41 Yankee in this year (spring survey only).

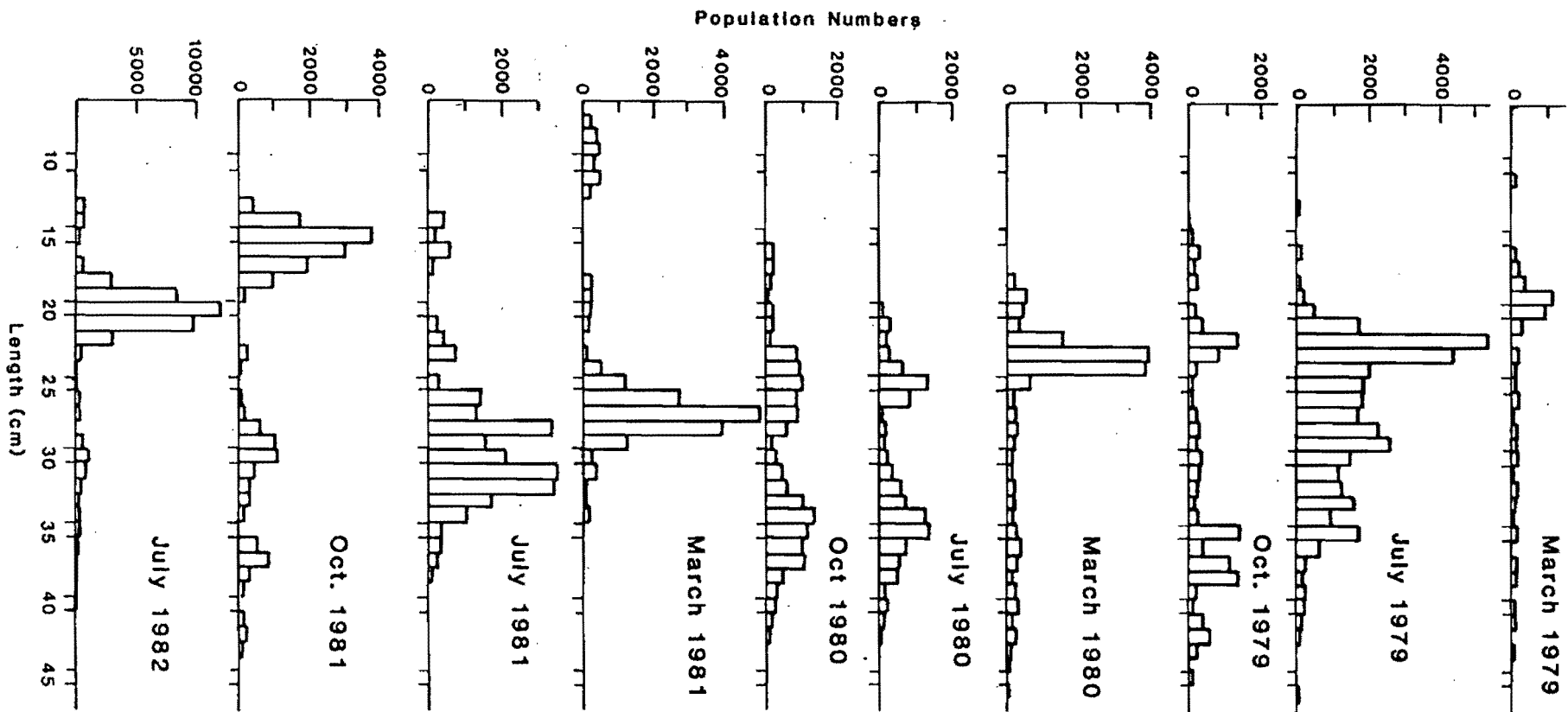


Figure 1. Population numbers ($\times 10^{-3}$) by length of argentine from Canadian research vessel surveys in NAFO Division 4WX (all strata).