INTERNATIONAL WHALING STATISTICS

LXXX

THE COMMITTEE FOR WHALING STATISTICS

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LXXX

EDITED BY
THE COMMITTEE FOR WHALING STATISTICS



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CONTENTS

Preface	Page	- 6
Introduction	ກັ	7
Table 1. — Whaling results for the various countries in the Antarctic in the		
season 1976/77	"	14
Table 2. — Average size of whales caught in the Antarctic in the season 1976/77	"	14
Table 3. — Whales caught in the Antarctic in the season 1976/77, by species,		
sex and size	"	15
Table 4. — Size of pregnant whale females caught in the Antarctic in the season		
1976/77	"	16
Table 5. — Whale foetuses measured in the Antarctic in the season 1976/77, by		
species and groups of size, in each month	"	17
Table 6. — Whale foctuses measured in the Antarctic in the season 1976/77,		
by species and sex, in each month	"	19

PREFACE

This publication, International Whaling Statistics No. LXXX, embraces the results of the Antarctic whaling during the season 1976/77.

The statistical data are based on catch reports sent to the Bureau of International Whaling Statistics, Sandefjord.

Sandefjord, November 1977.

Einar Vangstein

INTRODUCTION

In all postwar seasons up to and including 1971/72 the pelagic catches of baleen whales in the Antarctic were limited by quotas which were expressed in blue whale units. One blue whale unit equalled 1 blue whale or 2 fin whales or 2 $\frac{1}{2}$ humpback whales or 6 sei whales. For 1972/73 and subsequent seasons, quotas have been set for each species. At the 28th meeting of the International Whaling Commission in 1976 the quotas for baleen whales for the 1976/77 pelagic season and the 1977 coastal season for waters in the Southern Hemisphere were set at:

1,863 sei whales 8,900 minke whales

These quotas were sub-divided on an area basis. The total catches to be taken in any of the Areas I to VI should not exceed the limits shown below. However, in no circumstances should the sum of the Area catches exceed the total quotas for each species.

					Sei whales	Minke whales
Area	I	120°	W — 60°	W	 388	1,062
Area	\mathbf{II}	60°	W 0		 113	2,041
Area	III	0	— 7 0	\mathbf{E}	 -	3,003
Area	IV	70°	$E-130^{\circ}$	\mathbf{E}	 383	1,600
Area	V	130°	$E-170^{\circ}$	W	 626	1,524
Area	VI	170°	W — 120°	W	 5 39	402

The above total quotas and the quotas by Areas for sei and minke whales include the catch to be taken by Brazil in 1977. Japan and U.S.S.R. agreed to limit the catch by Antarctic floating factories of those species to:

1,858 sei whales

7,900 minke whales

The quotas for baleen whales were by agreement between Japan and U.S.S.R. split into national quotas as follows:

Sei whales	Minke whales
1,237	3,950
621	3,950
1,858	7,900
	whales 1,237 621

For the 1976/77 pelagic season and the 1977 coastal season the quota for sperm whales was set at 3,894 males and 897 females.

The quota set for sperm whales was sub-divided on a Division basis. The total catches in any of the Divisions 1 to 9 should not exceed the limits shown below. However, in no circumstances should the sum of the Division catches exceed the total quota.

	Male	Female
Division 1 60° W— 30° W	316	73
Division 2 30° W— 20° E	840	194
Division 3 20° E — 60° E	783	224
Division 4 60° E — 90° E	590	0
Division 5 90° E —130° E	559	128
Division 6 130° E —160° E	287	66
Division 7 160° E —170° W	0	94
Division 8 170° W—100° W	909	209
Division 9 100° W— 60° W	0	0

The above total quota and quotas by Division for sperm whales include sperm whales to be caught in 1977 by Australia and Brazil.

The quota set for sperm whales was by agreement between Japan, U.S.S.R., Brazil and Australia split into national quotas as follows:

	Male	Female	Total
Japan	238	63	301
U.S.S.R	3,134	707	3,841
Brazil (Division 1)	14	11	25
Australia (Division 5)	508	116	624
Total	3,894	897	4,791

Other important regulations governing the pelagic whaling in the Antarctic in the 1976/77 season were the following:

1. The open season for the taking of sei whales comprised the period from December 12th to April 7th, both days inclusive.

- 2. The open season for the taking of sperm whales was restricted to 8 months.
- 3. The open season for the taking of minke whales was restricted to 6 months.
- 4. It was forbidden to take sei whales below 40 feet and sperm whales below 30 feet; also sperm whales over 40 feet in the Southern Hemisphere north of 40° South Latitude during the months of October to January inclusive. Further it was forbidden to kill blue whales, fin whales, right whales, Bryde's whales and all female whales accompanied by calf.

In the 1976/77 Antarctic season 2 Japanese and 2 U.S.S.R. expeditions operated with a total of 43 catchers. The catch amounted to:

	Sei whales	Minke whales	Sperm whales
Japan	1,237	3,950	129
U.S.S.R.	621	3,950	1,873
Total	1,858	7,900	2,002

In addition some expeditions caught sperm whales in the Southern Hemisphere north of 40° South. The total catch of sperm whales was as follows:

	In Antarctic S. of 40° S.	In the Southern Hemisphere N. of 40° S.	Male	Of which Female	Total
Japan	129	105	174	60	234
U.S.S.R	1,873	1,968	3,134	707	3,841
Total	2,002	2,073	3,308	767	4,075

The catch south of 40° South by Areas was:

		Sei	Sei Minke	Sperm whales			
		whales	whales	Male	Female	Total	
Area I		298	943	10		10	
Area II		83	865	176	11	187	
Area III	• • • • • • • • • • • • • • • • • • • •		2,876	460	-	460	
Area IV		383	1,600	284	_	284	
Area V	• • • • • • • • • • • • • • • • • • • •	556	1,467	213	3	216	
Area VI	·····	538	149	723	122	845	
Total	•••••	1,858	7,900	1,866	136	2,002	

The eatch of sperm whales north and south of 40° South by Antarctic pelagic expeditions by Division was:

					Male	Female	Total
Division 1	60°	W — 30°	W		296	62	358
Division 2	30°	W 20°	\mathbf{E}		785	194	979
Division 3	20°	E — 60°	\mathbf{E}		632	183	815
Division 4	60°	E 90°	\mathbf{E}		590		590
Division 5	90°	$E - 130^{\circ}$	\mathbf{E}		47	23	70
Division 6	130°	E —160°	\mathbf{E}		213	3	216
Division 7	160°	$E - 170^{\circ}$	W		_	94	94
Division 8	170°	W100°	W		745	208	953
Division 9	100°	W 60°	W		_	_	_
				_	3,308	767	4,075

Details of the catch of sperm whales in the Southern Hemisphere north of 40° South will be found in publication No. LXXXI.

The distribution of whales caught south of 40° South by 10 degrees latitude (Series) was:

	Sei	Sei Minke		Sperm whales			
	whales	whales	Male	Female	Total		
Series D (40—50° S)	1,017		776	136	912		
Series A (50—60° S)	513		244		244		
Series B (60—70° S)	328	6,728	846	_	846		
Series C (south of 70°S)	_	1,172		-	****		
Total	1,858	7,900	1,866	136	2,002		

The average sizes (in English feet) of the different species and sexes of whales caught in the different Areas were as follows:

	8	Sei whales			Minke whales			Sperm whales		
	M	F	Total	M	F	Total	M	F	Total	
Area I	48.1	51.3	49.9	26.8	28.1	27.7	48.4		48.4	
Area II	48.6	51.6	50.7	28.1	29.4	29.1	46.5	36.7	45.9	
Area III	_	_		27.6	28.8	28.5	47.9	-	47.9	
Area IV	46.8	47.0	46.8	27.3	28.3	27.7	47.9	_	47.9	
Area V	46.6	47.5	47.0	27.3	28.7	28.1	47.8	36.0	47.6	
Area VI	46.9	47.9	47.3	26.5	27.5	27.2	43.4	33.9	42.0	
Total	47.0	48.6	47.7	27.4	28.7	28.2	46.0	34.1	45.2	

Table a shows the catch and production, table b and c catch by month, table d average size, table e whaling results for the various countries and table f the production of by-products. The tables also include data for 1971/72—1976/77 inclusive. Corresponding data for the seasons 1961/62—1970/71 will be found in publication No. LXVIII.

Table a. - Pelagic whaling in the Antarctic.

			Spe	cies of w	hales cau	Oil	Expeditions				
Years	Blue	Fin	Hump- back	Sei/ Bryde's	Minke	Sperm	Others	Total	production Barrels	Floating factories	Catch- ers
1971/72 1972/73 1973/74 1974/75 1975/76 1976/77	7 	2,683 1,761 1,288 979 206	5 —	5,456 3,864 4,392 3,859 1,821 1,858	5,745 7,713 7,000 6,034	4,927 4,162 2,829		14,529 15,585 18,320 16,000 10,890 11,760	345,539 334,065 292,504 180,076	7 8 7 5	89 ¹) 82 78 75 56 43

¹⁾ Including 1 combined floating factory/catcher.

Table b. - Antarctic, pelagic whaling, Catch by months in absolute figures

					•				
Species of and sea		Nov.	Dec.	Jan.	Feb.	March	April	Total	Total including lost whales
Total animals	1971/72 1972/73 1973/74 1974/75 1975/76 1976/77	321 846 2,579 1,607 1,318 1,738	4,093 5,737 4,748 3,920 3,007 3,184	4,828 4,508 4,695 4,301 2,398 2,598	2,982 2,342 3,146 2,846 2,482 3,225	2,021 1,650 2,327 2,082 1,409 797	267 486 818 1,243 274 218	14,512 15,569 18,313 15,999 10,888 11,760	15,573 18,320 16,000 10,890
Fin whales	$\begin{array}{c} 1971/72 \\ 1972/73 \\ 1973/74 \\ 1974/75 \\ 1975/76 \\ 1976/77 \end{array}$	— — —	153 89 172 3 15	604 225 329 206 56	1,061 1,148 601 367 91	861 299 174 356 44	4 11 47	2,683 1,761 1,287 979 206	1,761 1,288 979
Sei/Bryde's whales	1971/72 1972/73 1973/74 1974/75 1975/76 1976/77		2,348 1,347 1,294 1,041 458 546	2,098 1,681 1,518 1,882 769 657	540 488 1,408 727 438 546	441 346 159 186 151 109	28 1 7 23 3	5,455 3,863 4,386 3,859 1,819 1,858	3,864 4,392 3,859 1,821
Minke whales	$\begin{array}{c} 1971/72 \\ 1972/73 \\ 1973/74 \\ 1974/75 \\ 1975/76 \\ 1976/77 \end{array}$	105 604 2,501 1,571 1,263 1,736	1,195 3,453 2,656 2,410 2,098 2,285	1,031 1,687 1,539 1,522 1,018 1,324	675 900 1,496 1,655 2,555	13 117 — —		3,019 5,744 7,713 6,999 6 034 7,900	5,745 7,713 7,000 6,034
Sperm whales	1971/72 1972/73 1973/74 1974/75 1975/76 1976/77	216 242 78 36 55 2	397 848 626 466 436 353	1,095 915 1,309 691 555 617	706 706 237 256 298 124	706 1,005 1,877 1,540 1,214 688	235 485 1)800 2)1,173 271 218	3,355 4,201 4,927 4,162 2,829 2,002	4,203 4,927 4,162 2,829

¹⁾ Including 48 in May. 2) Including 201 in May.

Table c. - Antarctic, pelagic whaling. Catch by months in percentage figures.

Species of Seaso		Nov.	Dec.	Jan.	Feb.	March	April	Total	Total including lost whales
Total animals	1971/72	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Fin Whales	$\begin{array}{c} 1971/72 \\ 1972/73 \\ 1973/74 \\ 1974/75 \\ 1975/76 \\ 1976/77 \end{array}$		3,7 1.5 3.6 — 0.5	12,5 5.0 7.0 4,8 2.3	35,6 49.0 19.1 12,9 3.7	42,6 18.1 7.5 17,1 3.1	1,5 — 1.3 3,8 —	18,5 11.3 7.0 6,1 1.9	11.3 7.0 6,1
Sei/Bryde's whales	1971/72 1972/73 1973/74 1974/75 1975/76 1976/77		57,4 23.5 27.3 26,6 15.2 17.1	43,5 37.3 32.3 43.7 32.1 25.3	18,1 20.8 44.8 25,5 17.6 16.9	21.8 21.0 6.8 8.9 10.7 13.7	10,5 0.2 0.9 1,8 1.1	37,6 24.8 24.0 24,1 16.7 15.8	24.8 24.0 24,1 16.7
Minke whales	1971/72 1972/73 1973/74 1974/75 1975/76 1976/77	32,7 71.4 97.0 97,8 95.8 99.9	29,2 60.2 55.9 61,5 69.8 71.8	21,4 37.4 32.8 35,4 42.5 51.0	22,6 	0,7 5.0		20,8 36.9 42.1 43,8 55.4 67.2	20,8 36.9 42.1 43,8 55.4
Sperm whales	1971/72 1972/73 1973/74 1974/75 1975/76 1976/77	67,3 28.6 3.0 2,2 4.2 0.1	9,7 14.8 13.2 11,9 14.5 11.1	22,6 20.3 27.9 16,1 23.1 23.7	23,7 30.2 7.5 9,0 12.0 3.9	34,9 60.9 80.7 74,0 86.2 86.3	88,0 99.8 97.8 94,4 98.9 100.0	23,1 27.0 26.9 26,0 26.0 17.0	27.0 26.9 26.0 26.0

Table d. - Average size of whales killed in the Antarctic, by species of whales.

	Fi	n whal	es	Sei whales			Minke whales			Sperm whales		
	Males Engl. feet	Fe- males Engl. feet	Total Engl. feet									
1077/70	 04.0	0=0	25.5		45.0		27.0	20.5	20.0	45.0	0= -	44.5
1971/72	 64,3										37,5	
1972/73	 64.7	67.7	66.2	46.9	48.2	47.5	26.3	27.1	26.7	45.1	34.8	44.3
1973/74	 63.9	66.8	65.5	47.1	48.8	47.9	26.5	27.8	27.3	44.7	34.7	42.2
1974/75	 64.5	67.4	66,0	47.3	48,5	47.8	26,9	28.3	27,8	44,9	34,5	42,8
1975/76	 64.2	67.6	65.9	47.2	48.5	47.8	27.2	28.3	27.8	46.5	35.0	45.0
1976/77	 			47.0	1		27.4			46.0	34.1	45.2
•												

Table e. - Antarctic, pelagic whaling results for the various countries.

All	countries		Japan	ed ed	N	orway	gg g	U	.s.s.r.	, g
Number of whales killed	Catchers employed	Number of whales killed	Oil pro- duction	Catchers employe	Number of whales killed	Oil pro- duction	Catchers employed	Number of whales killed	Oil pro- duction	Catchers
	Barrels		Barrels			Barrels			Barrels	
$1972/73 \dots 15,585$	180,076 56	6,285 7,087 6,656 4,597	119,307 84,998 89,542 43,588	35 31 30 23		36 	11) 	9,300 11,233 9,344	136,488	47 47 45 33

¹⁾ Combined catcher/floating factory.

Table f. - Production of by-products in the Antarctic.

Seasons Countries	Whale meat-meal, bone-meal, grax meal, guano	Whale liver or liver flakes	Liver oil Mill. units Vitamin A	Whale meat, blubber, ventral grooves	Whale solubles	Other products
1971/72 1972/73 1973/74 1974/75 1975/76	L. tons 13,397 13,423 14,659 14,210 7,982	L. tons 1,791 1,516 1,694 1,700 1,737	1,253,000 1,915,000 2,092,000 2,063,000	L. tons 104,438 87,384 93,338 95,863 66,308	L. tons 1,574 1,624 1,723 1,151	L. tons 1,211 12,216 3,412 301 155
1976/77 Japan	6,565	1,302		30,859 34,052	<u> </u>	144 44
Total	6,565	1,302		64,911		188

TABLES

Antarctic season 1976/77.

Table 1. - Whaling results for the various countries in the Antarctic in the season 1976/77.

Pelagic whaling.

		Species of wh	hales caught	Oil	Expeditions		
Countries	Sei	Minke	Sperm	Total	production. Barrels of 170 kg	Floating factories	Catchers
Japan U.S.S.R	1,237 621	3,950 3,950	$129 \\ 1,873$	5,316 6,444	37,067 100,393	$\frac{2}{2}$	18 25
Total	1,858	7,900	2,002	1) 11,760	137,460	4	43

¹⁾ In addition 29 killer whales and 2 bottlenose were caught.

Table 2. — Average size of whales caught in the Antarctic in the season 1976/77.

Pelagic whaling.

Nun	nber of whales measured.	Tive a dittion		Average size.	
	neer of whates measured.	Expedition	Males.	Females.	Total.
	Sei whales.				
Males Females	1,052 806 Total 1,858	No. 1 2 3 4	46.6 46.9 48.6 46.9	47.0 48.2 51.6 47.3	46.8 47.4 50.5 47.0
	Average		47.0	48.6	47.7
	Minke whales.				
Males Females	2.854 5.046 Total 7,900	No. 1 2 3 4	27.0 27.0 28.0 27.8	28.2 28.0 29.2 29.2	27.7 27.5 28.8 28.8
	Average		27.4	28.7	28.2
	Sperm whales.				
Males Females	1,866 136 Total 2,002	No. 1 2 3 4	47.3 44.4 47.6 45.4	36.0 36.7 33.9	47.3 44.2 47.3 44.4
	Average		46.0	34.1	45.2

Table 3.—Whales caught in the Antarctic in the season 1976/77, by species, sex and size.

Pelagic whaling.

Sel whales.

Engl foot	Numb	er of	Matal.	Time at the st	Numb	er of	Model.
Engl. feet	males	females	Total	Engl. feet	males	females	Total
35 37 38 39 40 41 42 43	- 1 - 3 29 26 26 26 39	$egin{array}{c} 1 \\ -1 \\ 2 \\ 26 \\ 24 \\ 30 \\ 25 \\ \end{array}$	$egin{array}{cccc} 1 & & & 1 \\ 1 & & & 1 \\ 5 & & 55 \\ 50 & & 56 \\ 64 & & & \end{array}$	51 52 53 54 55 56 Total	42 15 1 - - - - 1,052	81 125 51 27 16 6	123 140 52 27 16 6
44 45 46 47 48 49 50	37 82 119 185 198 141 108	41 29 45 43 63 80 90	78 111 164 228 261 221 198	Average Per cent:	size: $\left\{ egin{array}{l} \operatorname{Ma} \\ \operatorname{Fer} \\ \operatorname{To} \end{array} \right.$	les 47.0 males 48.6 tal 47.7	

Minke whales.

Engl foot	Numl	per of	Total	The fact	Numl	per of	Total
Engl. feet	males	females	Total	Engl. feet	males	females	IOURI
19 20 21 22 23 24	1 2 7 9 31 65	- 2 5 23 26 77	1 4 12 32 57 142	30 31 32 33 Total	121 30 - - - 2,854	1,123 585 80 10 5,046	1,244 615 80 10 7,900
25 26 27 28 29	167 422 710 827 462	115 259 506 1,052 1,183	282 681 1,216 1,879 1,645	Average Per cent:	size: $\begin{cases} \text{Ma} \\ \text{Fer} \\ \text{To} \end{cases}$	les 27.4 males 28.7 tal 28.2	

Sperm whales.

Engl. feet	Numb	per of	Total	Engl. feet	Nu	mber of	Total
Engl. 1660	males	females	10121	Engi. leet	males	females	Total
30	1	_	1	47	223	_	223
31	1	10	11	48	229	_	229
32	_	13	13	49	201	_	201
33	_	34	34	50	173	_	173
34	$\frac{2}{5}$	23	25	51	90	_	90
35		24	29	52	66	_	66
36	13	18	31	53	10	-	10
37	27	8	35	54	15	_	15
38	42	6	48	55	1	_	1
39	63	-	63				
40	58	-	58	Total	1,866	136	2,002
41	84	-	84		()	5 1 40 0	
42	91	-	91	1.		Iales 46.0	
43	90	-	90	Average a		emales 34.1	»
44	118	-	118		•	otal 45.2	»
45	112	-	112	Per cent:		Iales93.2	
46	151	-	151	101 00110.	l F	emales 6.8	

Table 4.—Size of pregnant female whales caught in the Antarctic in the season 1976/77.

Pelagic whaling.

Sei whales.1)

Length	Number of pregnant females	Length	Number of pregnant females		
43 44 45 46 47 48 49 50	$egin{array}{c} 1 \\ -3 \\ 9 \\ 13 \\ 28 \\ 33 \\ 51 \\ \end{array}$	51 52 53 54 55 56 Total	45 75 29 15 10 6	Number of foetuses measured of which twin pairs	32 3 5

¹⁾ Exclusive of 4 females with no information of pregnancy.

Minke whales.1)

Length	Number of pregnant females	Length	Number of pregnant females	
24 25 26 27 28 29 30	4 21 88 315 757 889 868	31 32 33 Total	436 61 7 3,446	Number of foetuses measured

¹⁾ Exclusive of 292 females with no information of pregnancy.

Sperm whales.

Length	Number of pregnant females	Length	Number of pregnant females		
31 32 33 34 35 36	2 1 6 4 6 3	37 38 Total	2 2 26	Number of foetuses measured	26

Table 5.—Whale foetuses measured in the Antarctic in the season 1976/77, by species and groups of size, in each month.

Pelagic whaling.

Sei whale foetuses.

Groups of size. Engl. feet	Dec.	Jan.	Febr.	March	Total
0′— 0′11″	4	5	7	1	17
1'— 1'11"	3	_	_	_	3
2'— 2'11"	14	4	3	_	21
3'— 3'11"	11	5	3	_	19
4'— 4'11"	33	12	8	_	53
5'— 5'11"	32	25	14	_	71
6'— 6'11"	4	31	10	1	46
7'— 7'11"	1	21	12	2	36
8'— 8'11"	_	14	16	5	35
9'— 9'11"	_	4	7	4	15
10'—10' 11"		_	3	$\bar{1}$	4
11'—11'11"	_	_	1	1	2
12'—12'11"		_	_	_	
13′—13′11″		_	_	_	_
14'—14'11"	1	_	_	_	1
Total	103	121	84	15	323
Average size	4' 2"	5' 11"	6' 2"	8' 2"	5' 6"

Minke whale foetuses.

Groups of size. Engl. feet	Nov.	Dec.	Jan.	Febr.	Total
0'— 0'11" 1) 1'— 1'11" 2'— 2'11" 3'— 3'11" 4'— 4'11" 5'— 5'11" 6'— 6'11" 7'— 7'11" 8'— 8'11" 9'— 9'11"	330 244 33 2 1 1 - - 1 2	432 469 117 28 5 1 1 - 2 4	120 257 101 62 20 10 1	149 286 350 240 117 56 17 2	1,031 1,256 601 332 143 68 19 2 3 6
Total	614 0′10″	1,060 1′1″	571 1′8″	1,217 2′ 5″	3,462 1′7″

¹⁾ Including very small foetuses (first stage) not measured and foetuses lost.

Sperm whale foetuses. (South of 40° S.)

Groups of size. Engl. feet	Dec.	March	April	Total
0'— 0'11" 1'— 1'11" 2'— 2'11" 3'— 3'11" 8'— 8'11" 11'—11'11" 12'—12'11" 13'—13'11" 14'—14'11"	- - - 1 - -	2 5 5 4 - 2 1 3	1 1 - - - - -	3 6 5 4 1 2 1 3
Total	1 8'0"	23 5′ 2″	2 0′6″	26 4′ 11″

Table 6.—Whale foetuses measured in the Antarctic in the season 1976/77, by species and sex, in each month.

Pelagic whaling.

	Number of		Sex not	Total	Number of males per
	males	females	determined	Total	100 females
Sei whale foetuses.					
December	45	55	3	103	82
January	57	59	5	121	97
February	39	38	7	84	103
March	9	5	1	15	180
Total	150	157	16	323	96
Minke whale foetuses.					
November	239	314	61	614	76
December	474	520	66	1,060	91
January	259	283	29	571	92
February	59 0	570	57	1,217	104
Total	1,562	1,687	213	3,462	93
Sperm whale foetuses.					
December	1	_	_	1	_
March	9	14	_	$2\overline{3}$	64
April	ĭ	-	1	2	-
Total	11	14	1	26	79

