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**An estimate of the composition of the catch of harp seal  
in West Greenland, 1972 - 1975.**

by

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In the years 1970 to 1976 samples of jaws from harp seals caught in Northwest Greenland were obtained from a number of settlements. Preliminary results of this research were presented in a previous paper (Kapel 1975).

In the attached tables and figures the results of the collections, and the age determination of the material from the period 1972 - 1975 are shown.

Table 1 presents a summary of the catch statistics ("The Greenlanders' Lists of Game") for 1972 - 1976. The totals fluctuate between approximately 5000 and 9000 harp seals, but taking into account that the figures for 1975 and 1976 are preliminary no clear trend in the catches can be seen during the period. The catch of harp seal in West Greenland is still a small fraction of what it was twenty years ago.

Table 2 shows a break-down of the statistics on the settlements of Northwest Greenland and a comparison with the sample size for the localities at which jaws were collected. It is noted that the collecting success is rather high for some areas, and that the sample size for Northwest Greenland as a whole accounts for 10-18 % of the catches.

It should, however, also be noted that very few jaws were obtained from the southwestern districts, which account for approximately half the total catch of harp seal in Greenland.

In Fig. 1 is shown the seasonal distribution of the catches and samples. On the whole the samples seem to represent the catches at the sampling localities rather well, although the late part of the hunting season in most cases is poorly represented in the samples.

Altogether, the samples from 1972-75 probably give a reliable picture of the composition of the catch of harp seal in Northwest Greenland during that period.

A survey of the results of the age determination of the material is given in Table 3. It appears that for some localities (e.g. Loc. 31 and 38) the age composition of samples for all years is very uniform, but differs from that of other localities. For other localities (e.g. Loc. 21-23) the age composition, especially the frequency of age group 0, show rather great variation between years.

In order to get an impression of the composition of the catch of harp seal in West Greenland it is therefore desirable to obtain samples from several localities each year. Further, simple putting together all samples does not necessarily result in "the" sample representing the Greenland catch.

The material collected during the past years makes it, however, possible to compile reasonably good estimates of the composition of catches in Northwest Greenland (including part of Disko Bay) for the years 1972 to 1975. An attempt in that respect is presented in Table 4.

For localities where the sample for one particular year was large enough, the frequencies found in the sample were used directly to obtain figures for the age distribution of catches. If a sample was not available, or was insufficient, for that particular year or locality, the "best" sample was used, either one from another year or another locality. The results of adding the figures calculated per locality by district, are shown in the upper part of Table 4. Smoothing of catch curves was not used because it was felt that this procedure might veil the possible existence of relatively weak or strong (groups of) year classes.

The figures calculated for the northwestern part of the country (NW + CWe) and given in Table 4 are considered to reflect the actual composition of catches rather well. A comparison with the relation between young harps ("blåsider") and saddlebacks ("sortsider") given in the Greenlanders' Lists of Game gives some indication in that direction :

	1972	1973	1974	1975
Upernavik				
calculated 0-4 years	82.2 %	84.8 %	91.3 %	87.3 %
recorded "blåsider"	81.6 %	79.0 %	83.5 %	88.9 %
Umanak				
calculated 0-4 years	95.8 %	96.0 %	96.5 %	91.6 %
recorded "blåsider"	95.7 %	96.3 %	94.5 %	96.7 %
C.W.e.				
calculated 0-4 years	85.5 %	93.8 %	95.3 %	84.7 %
recorded "blåsider"	81.8 %	75.0 %	69.0 %	62.1 %
(for Loc. 40 - " )	81.0 %	89.5 %	86.4 %	88.8 %
N.W. + C.W.e.				
calculated 0-4 years	86.9 %	92.1 %	94.5 %	87.9 %
recorded "blåsider"	84.9 %	83.9 %	77.7 %	85.9 %

It should be taken into account, that the hunters' indication is not an exact one. We have some examples of old mature animals being classified as "blåsider" - and the opposite.

For the Umanak district, however, the correlation between the two set of figures is very good, and also for the Upernavik district the calculated per cent of young animals differ only slightly from the recorded per cent of "blåsider". For the inner part of Disko Bay (CWe) the calculated figures for 1973 to 1975 are considerably higher than the recorded ones for the area as a whole, but in better agreement with the records for Loc. 40 alone; this indicates that the locality may not represent the whole area too well. The Lists of Game indicate that the southern part of the area (Christianshåb district) has a much higher percentage of old animals than the rest.

This circumstance of course effects the figures for Northwest Greenland as a whole, but the percentages indicate that only for 1974 the amount of young animals in the catches seems to be greatly overestimated by using the age composition derived from the samples.

The composition of the catches in the southwestern part of Greenland is not known exactly because samples are not available from this area. The percentages of "blåsider" recorded in the Lists of Game for West Greenland as a whole were:

1972	1973	1974	1975
84.5 %	81.5 %	78.9 %	86.9 %

As these do not differ much from the percentages recorded for Northwest Greenland, the error in using the age composition data calculated for this area also for the total West Greenland catch of harp seals is probably not great. This has been done in the lower part of Table 4.

The preliminary conclusion is, that in the period 1972 - 1975 approximately 4400 (3000-5700) youngs of the year, 1800 (1300-2800) 1-4 year old animals, and 600 (300-800) older harp seals were caught per year in West Greenland.

Reference:

Kapel, F.O. 1975. Age analyses and catch of the harp seal in Northwest Greenland, 1953-72. ICNAF Res. Bull., 11 : 93-106.

Table 1. Catch of harp and hooded seals in West Greenland 1976, and revised data for 1974 - 1975.

	beaters and bedlamers	old harps	total harps	total hooded
1972 (excl. Thule)	4987	916	5903	2382
Thule <sup>b)</sup>	...	...	49	1
	...	...	5952	2383
1973 (excl. Thule)	7399	1679	9078	2638
Thule <sup>b)</sup>	...	...	84	16
	...	...	9162	2654
1974 (excl. Thule)	5320	1426	6746	2740
Thule <sup>b)</sup>	...	...	253	41
	...	...	6999	2781
1975 <sup>a)</sup> (excl. Thule)	3830	579	4409	3072
Thule <sup>b)</sup>	...	...	176	43
	3837	580	4585	3115
1976 <sup>a)</sup> (excl. Thule)	4335	537	4872	3308
Thule	21+	11+	32+	8+
	4356	548	4904	3316

Data from Greenlanders' lists of game.

- a) Preliminary figures. For 1975 and 1976 data are lacking for several settlements and estimates of these catches will probably raise the totals by approximately 10%.
- b) For Thule districts is given number of skins purchased to the Royal Greenland Trade Department, as the lists of game are very incomplete for this area.
- ... No data

According to the lists of game the catch of hooded seals in East Greenland was as follows:

1972	1825
1973	677
1974	1218
1975	721+
1976	546+

Table 2. Sample size(S) as per cent of catch (C) of harp seals in West Greenland, 1972 - 1976.

District, Loc.No. Thule <sup>b)</sup>	1972		1973		1974		1975 <sup>a)</sup>		1976 <sup>a)</sup>	
	C	S %	C	S %	C	S %	C	S %	C	S %
	49+	-	84+	-	253+	-	176+	-	-	-
11	12	3	53	96	66	31	5+	12	19	19
14	105	3	167	28	94	88	82	6	10	10
17-20	248	70	215	129	139	78	77	47	107	107
21-23	379	115	376	110	350	134	208	105	102	102
24	53	44	59+	67	19+	23	43+	48	19	19
25	37	-	51	-	19	-	20	-	-	-
27	233	84	283	97	157	18	238	-	-	-
29	120	-	80	-	28	6	50	-	-	-
Upernavik	1187	316	1283	499	872	378	723	218	877	257
		27	39	43	43	30	30	30	29	29
31	41+	73	72	28	49	-	169	-	-	-
34	358	-	443	-	194	15	274	-	-	-
38	118	116	208	118	97	90	75	72	8	8
other	385	-	954	-	313	-	333+	-	-	-
Umanak	902	189	1677	146	653	105	851+	72	1242	8
		21	9	16	16	8	8	8	8	8
40	295	174	379	161	220	47	143	-	-	-
45	693	-	364	1	963	35	196	17	-	-
other	550	-	417	-	253	-	-	-	-	-
Jakobsh.	1538	174	1160	162	1436	82	339+	17	178	178
Chr.haab	249	-	511	-	382	2	138	1	-	-
Subtotal N.W.+C.W.e.	3876	679	4631	807	3343	567	2051+	308	2297+	265
		18	17	17	17	15	15	15	10	10
91	128	-	438	-	276	35	-	-	-	-
other	855	1	2249	1	1730	-	-	-	-	-
C.W.w.	983	1	2687	1	2006	35	1001	-	852+	852+
S.W.	734	-	1214	-	1042	-	945	-	1442+	1442+
S.	310	-	546	-	355	2	412	1	281+	281+
Subtotal C.W.w.+S.W.+S.	2027	1	4447	1	3403	37	2358	1	2575+	2575+
		-	-	-	-	1	1	1	-	-
TOTAL W.GRL. (excl. Thule)	5903	680	9078	808	6746	604	4409	309	4872	265
Estimated Total	6000	12	9200	9	7100	9	4900	7	5600	5

Notes: See Table 1.

TABLE 3. Age frequencies in samples of harp seal from N.W. Greenland, 1972-1975

Age Group	0	1	2	3	4	5	6	7	8	9	10	11-15	16-20	21-25	26+	Sum
Locality No.																
11, 1974	10	13	4	-	1	-	-	1	-	-	-	2	-	-	-	31
'75	2	7	1	2	-	-	-	-	-	-	-	-	-	-	-	12
14 '72	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	3
'73	63	29	2	-	-	-	-	-	1	-	-	-	-	1	-	96
'74	52	22	10	1	2	-	-	-	-	-	-	-	1	-	-	88
'75	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	(6)
17-20 '72	28	16	11	2	3	2	1	1	-	-	-	2	-	2	2	70
'73	81	27	8	4	1	4	-	-	1	-	-	2	-	1	-	129
'74	55	12	5	-	2	-	-	-	-	1	-	1	2	-	-	78
'75	27	14	4	-	-	-	-	-	-	-	-	2	-	-	-	47
21-23 '72	50	15	15	7	8	5	3	3	3	-	1	1	2	-	2	115
'73	37	32	16	7	5	5	-	1	1	-	2	-	2	1	1	110
'74	96	27	9	1	-	-	-	-	-	-	-	-	1	-	-	134
'75	68	27	6	1	1	1	-	-	-	-	-	1	-	-	-	105
24 '72	14	10	3	5	7	-	1	1	-	-	-	1	2	-	-	44
'73	28	12	5	8	-	1	1	-	2	1	-	2	5	1	1	67
'74	17	2	2	-	1	-	-	-	-	-	-	-	1	-	-	23
'75	33	11	2	-	2	-	-	-	-	-	-	-	-	-	-	48
27+29 '72	7	20	14	10	10	3	1	4	-	-	2	6	3	2	2	84
'73	22	27	9	7	2	4	4	1	1	-	1	7	9	3	-	97
'74	-	3	4	1	3	-	3	-	-	-	-	5	2	3	-	24
31 '72	64	4	2	-	-	-	2	-	-	-	-	-	1	-	-	73
'73	25	1	1	-	1	-	-	-	-	-	-	-	-	-	-	28
38 '72	95	8	1	1	1	2	-	1	-	-	-	-	1	1	1	112
'73	88	14	8	2	-	1	-	-	-	-	-	-	4	-	1	118
'74	82	5	-	-	-	-	-	-	-	-	-	1	1	1	-	90
'75	55	6	4	1	-	-	-	1	1	2	-	1	1	-	-	72
40 '72	126	10	7	1	5	4	4	4	-	-	-	3	3	5	2	174
'73	101	32	15	3	-	1	-	2	-	-	1	4	-	2	-	161
40+45 '74	60	14	5	-	1	-	2	-	-	-	-	2	-	-	-	84
45 '75	-	2	2	3	1	-	-	1	-	-	-	1	-	-	-	10
91 '74	6	11	5	1	-	3	1	1	2	-	-	3	1	1	-	35
All Samples '72	386	83	54	26	34	16	12	14	3	-	3	13	12	10	9	675
'73	445	174	64	31	9	16	5	4	6	1	4	15	20	9	3	806
'74	378	109	44	4	10	3	6	2	2	1	-	14	9	5	-	587
'75	185	67	19	7	4	1	-	2	1	2	-	5	1	-	-	294

Table 4. Estimated distribution on year classes of the catch of harp seals in West Greenland, 1972-1975.

Year class:	'75	'74	'73	'72	'71	'70	'69	'68	'67	'66	65-61	60-56	55-51	50-46	45
1972-catch, UPV. (1187)				395	242	164	82	93	39	20	60	35	24	15	18
" " UMN. (902)				775	59	14	11	5	5	4	5	4	10	5	5
" " CWe. (1787)				1298	102	72	15	41	38	34	63	56	25	29	14
1973-catch, UPV. (1283)			510	356	123	69	30	42	16	9	41	37	36	10	5
" " UMN. (1677)			1298	173	104	23	12	11	-	-	-	11	34	-	11
" " CWe. (1671)			1048	333	155	32	-	11	-	20	32	20	-	20	-
1974-catch, UPV. (872)		480	195	79	19	23	6	7	7	1	22	16	14	3	2
" " UMN. (653)		594	36	-	-	-	-	-	-	-	-	7	14	-	-
" " CWe. (1818)		1300	304	107	7	14	13	12	10	2	21	7	12	6	3
1975-catch, UPV. (723)	319	186	66	32	28	13	11	7	2	-	32	17	18	3	1
" " UMN. (851+)	650	71	49	12	-	-	-	12	12	24	12	-	12	-	-
" " CWe. (477+)	370	74	37	17	10	14	13	11	2	2	22	5	13	6	2
NW+CWe (calc.), 1972 (3876)				2468	403	250	108	139	82	58	128	95	59	49	37
" " " 1973 (4631)				862	382	124	42	64	16	29	73	68	70	30	16
" " " 1974 (3343)		2374	535	186	26	37	19	19	17	3	43	30	40	9	5
" " " 1975 (2185)	1339	331	152	61	38	27	24	30	16	26	66	22	43	9	3
TOTAL W. GRN. (Estim.) '72 (6000)				3821	624	388	167	215	127	90	198	148	91	77	58
" " " '73 (9200)			5675	1712	761	247	83	128	34	56	146	137	139	62	34
" " " '74 (7100)		5045	1136	396	56	78	41	41	35	6	92	64	85	20	12
" " " '75 (4900)	3004	745	343	137	88	59	54	69	34	59	147	49	78	20	5
Age group:	0	1	2	3	4	5	6	7	8	9	10-14	15-19	20-24	25-29	30+
Average catch 1972-1975 (6800)	4385	1050	470	150	115	90	55	50	25	35	135	95	90	35	20

630

6170

Fig. 1. Seasonal distribution of catches and samples of harp seals in Northwest Greenland.

