

SEALS

SURVEY-INVENTORY PROGRESS REPORT-1976

G.M.U.'s 18, 22, 23 and 26 - Western and Arctic Alaska

Seasons and Bag Limits

Closed; except Alaskan natives, which under provision of the Marine Mammal Protection Act, can take seals with no limit.

Harvest and Hunting Pressure

For the past four years, annual harvest figures for these game management units were derived from samples obtained from selected villages within the area. In 1976, Hooper Bay, Gambell, Savoonga and Shishmaref were used as sample villages (Appendix I). Local residents were hired to record numbers of seals by species and reported a combined harvest of 1357 seals. (Table 1). This harvest was comprised of 57 percent ringed seals, 25 percent bearded seals, 18 percent spotted seals and only a few ribbon seals. Based upon periodic surveys by Department personnel, it was estimated that reported harvests were, on the average, 10 percent low. From this information, the harvest for these sample villages was revised up to 1492. Past data indicate the sample village harvest represents approximately 25 to 30 percent of the total seal harvest in these game management units. The total annual harvest is therefore estimated at 4973 to 5968 seals. Using the observed species composition from the sample villages, 2835 to 3402 ringed seals, 1293 to 1492 bearded seals and 895

Table 1. Combined Seal Harvest* -- 1976

SPECIES	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly TOTAL
Ring Seal ♂	51	26	18	22	74	20	63	1	1	2	3	3	284
Ring Seal ♀	43	15	8	14	78	34	92	0	1	0	7	3	295
Ring Seal Unk	37	7	8	19	33	14	0	9	19	7	19	20	192
TOTAL RING SEAL	131	48	34	55	185	68	155	10	21	9	29	26	771
Bearded ♂	0	0	0	3	29	7	31	1	16	6	2	0	95
Bearded ♀	0	0	0	4	52	12	41	4	16	5	1	0	135
Bearded Unk	0	0	0	4	55	27	0	3	4	2	7	2	104
TOTAL BEARDED SEAL	0	0	0	11	136	46	72	8	36	13	10	2	334
Spotted ♂	0	0	0	1	4	3	8	1	9	9	4	0	39
Spotted ♀	0	0	1	0	7	4	6	4	7	15	0	0	44
Spotted Unk	0	0	0	0	1	1	11	26	86	21	20	0	166
TOTAL SPOTTED SEAL	0	0	0	1	12	8	25	31	102	45	24	0	249
Ribbon	0	0	0	0	0	1	0	0	0	0	2	0	3
TOTAL HARVEST ALL SPECIES	131	48	35	64	333	123	252	49	159	67	65	28	1357

* Gambell, Savoonga, Hooper Bay and Shishmaref.

to 1074 spotted seals are estimated to have been taken. In the overall harvest, ribbon seals are estimated to be approximately one dozen animals.

Hunting pressure as reflected by harvest levels, appears to have declined from what it was during the early years of statehood. In the early 60's, bounties and the lack of alternate food sources provided incentives to local hunters to effect a large annual harvest, sometimes approaching 30,000 animals. Much of the present harvest pressure is a result of two factors: 1) the use of seal skins in clothing and novelty items for sale and 2) the urge to continue traditional activities even though much of the actual need is gone.

Composition and Productivity

As might be suspected, the bulk of the harvest (57%) was comprised of ringed seals. A harvest of this magnitude does not accurately reflect the population status of this species in relation to the abundance of bearded and spotted seals. Recent surveys indicate that the ringed seal population may exceed one million animals while bearded seal numbers are approximately 300,000 and spotted seal numbers are about 200,000. Ribbon seal numbers are estimated at about 100,000 individuals. Seasonal distribution of each species and timing of hunting effort account for biases within the harvest.

Sex ratios were found to be equal in the ringed seal and spotted seal harvests. However, the sample was weighted toward females within the bearded seal harvest. Hunter selection is not a factor and any variability in the sex ratio of the total harvest is a function of distribution patterns and behavioral differences between the sexes.

Productivity is difficult to assess, however, specimen material is annually collected by the Department and analysis should provide some insight into this aspect of the seal population.

Management Summary and Recommendations

At present harvest levels, the three seal species, ringed, bearded, and spotted, are in no immediate danger of over harvest. If additional incentives arise, such as the allowance of the sale of raw skins, a rapid increase in the seal harvest could result.

If management of seals is returned to the State, non-native and native hunting will be recommended. Additionally, assuming present harvest levels remain constant, a no closed season is also suggested. During the 1950's and 60's annual harvests averaged 15,000 seals per year. As can be seen from present harvest levels, there is no justification for any retrictions of the harvest. Utilization standards could be improved in some areas wehre large numbers of seals are taken for theprocuring ofskins used in the manufacture of items for sale.

PREPARED BY:

Carl A. Grauvogel
Game Biologist III

SUBMITTED BY

Oliver E. Burris
Regional Management Coordinator

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Yearly

APPENDIX I. Savoonga Seal harvest --- 1976

SPECIES	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly TOTAL
Ring Seal ♂	13	5	6			2		1	1	2	3	2	35
Ring Seal ♀	2	3	4				3				7	2	21
Ring Seal Unk	4	0	4	1		4		2	19	1	8	1	44
<u>TOTAL RING SEAL</u>	19	8	14	1		6	3	3	20	3	18	5	100
Bearded ♂					1								
Bearded ♀					1					1	2		4
Bearded Unk				3		12		1			1		2
<u>TOTAL BEARDED SEAL</u>				3	1	12		1		1	3		16
Spotted ♂													
Spotted ♀							1	1	1	2	3		8
Spotted Unk						1	1	2	19	1	2		2
<u>TOTAL SPOTTED SEAL</u>						1	13	3	20	9	5		41
Ribbon													
<u>TOTAL HARVEST ALL SPECIES</u>	19	8	14	4	2	19	16	7	40	13	26	5	173

APPENDIX I. Hooper Bay Seal Harvest -- 1976

SPECIES	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly TOTAL
Ring Seal ♂	25	21	12	21	72	9						1	161
Ring Seal ♀	19	12	4	10	76	12	1		1			1	136
Ring Seal Unk	22	7	4	18	15	4							70
TOTAL RING SEAL	66	40	20	49	163	25	1		1			2	367
Bearded ♂								1		5			55
Bearded ♀				3	24	6		4	16	5			80
Bearded Unk				4	44	7			16	5			
TOTAL BEARDED SEAL				1	7	4			1	1			13
				8	75	17		5	32	11			148
Spotted ♂													
Spotted ♀				1	4	3			8	7	1		24
Spotted Unk			1		7	4	2	4	7	14	1		39
TOTAL SPOTTED SEAL					1								2
			1	1	12	7	2	4	15	21	2		65
Ribbon						1							1
TOTAL HARVEST ALL SPECIES	66	40	21	58	250	50	3	9	48	32	2	2	581

APPENDIX I. Shishmaref Seal Harvest --- 1976

SPECIES	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly TOTAL
Ring Seal ♂	13			1		9	63						86
Ring Seal ♀	22			4		21	88						135
Ring Seal Unk	11												11
TOTAL RING SEAL	46			5		30	151						232
Bearded ♂							31						31
Bearded ♀						1	41						42
Bearded Unk													
TOTAL BEARDED SEAL						1	72						73
Spotted ♂							7						7
Spotted ♀							3						3
Spotted Unk													
TOTAL SPOTTED SEAL							10						10
Ribbon													
TOTAL HARVEST ALL SPECIES	46			5		31	233						315

RETRIEVED KILL OF WALRUS IN ALASKA FROM 1967 THROUGH 1976 BY AREA

ACTION/ YEAR	10 Year Average										5 Year Average	
	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	Year	Year
kokwim Area	30	37	68	45	45	22	46	73	9	15	39	33
bell	84	466	226	243	175	250	255	261	641	742	334.3	429.8
onga	299	117	179	180	543	236	515	204	466	656	339.5	415.4
theast Cape	25	14	3*	NOME	21	35	21	130	95	280	62.4	112.2
g Island	129	37	1	127	141	21	153	5	24	0	63.8	40.6
es	4	66	6	77	146	15	35	16	116	98	57.9	56.0
tle Diomede	593	565	229	590	535	404	418	434	793	739	530.0	557.6
shmaref	23	?	16	0	145	25	33	105	85	0	43.2	49.6
Hope	3	21	5	6	35	45	13	69	10	4	21.1	28.2
nwright	47	85	92	89	23	56	31	38	65	253	77.9	88.6
row	55	16	7	39	51	150	20	35	15	136	52.4	71.2
er Villages	25	12	50	16	55	66	41	40	59	43	40.7	49.8
AL	1,317	1,436	882	1,422	1,915	1,325	1,581	1,410	2,378	2,966	1650	1980

No walrus taken at N.E. Cape after 1969. Harvest data for Nome substituted after 1969.
To be divided among Teller, Brevig Mission, Kotzebue, Kivalina, Pt.Lay, Kaktovik and Nuiqsut.

MEMORANDUM

State of Alaska

TO: John Burns
Marine Mammal Coordinator
Division of Game
Fairbanks

DATE: 15 February 1977

FILE NO:

TELEPHONE NO:

FROM: John Matthews *JDM*
Game Biologist
Nome

SUBJECT: Marine mammal harvest of 1976

The marine mammal harvest as outlined in the attached tables is as complete as our present sources allow. The harvest of northern villages beyond Pt. Hope are not well known by myself and you may have additional data to add for that area.

Four communities, Hooper Bay, Gambell, Savoonga and Shishmaref had relatively complete seal harvest data for 1976 and can provide some insight to harvest composition by species and sex. Past records indicate that these four villages have traditionally taken 20 percent of the seal harvest in this region. Based on a harvest of 1337 seals in these four communities, the projected harvest is estimated to be 6685 seals from the Kuskokwim region north to the Canadian border. Species composition from this sample was 54 percent ringed seals, 25 percent bearded seals and 20 percent spotted seals and less than 1 percent ribbon seals.

The walrus figures are the same as those discussed over the phone. Polar bear harvest is based on sealing slips issued from our office and do not include animals taken north of Pt. Hope. Whale harvest including belugas is somewhat incomplete except for St. Lawrence Island, Pt. Hope, Wainwright and Barrow, and therefore the figures represent a very minimum harvest.

Utilization of retrieved kill is a complex situation reflecting seasonal variations in animal abundance, hunting conditions, availability of alternate food sources and hunter attitudes. Generally utilization of marine mammals, specifically seals, has been 80 percent or better in much of the Yukon-Kuskokwim Delta area. Animals are hunted throughout the year but are never available in large numbers thus predisposing the taker to use all that he can salvage. In northern areas in the vicinity of the Bering Strait, hunting effort and prey availability appear to be more seasonal. A feast and famine situation exists in several of the communities. In villages like Shishmaref, utilization of retrieved kill may be 50 percent or even less. When seals, walrus or whales are available they are taken in large numbers even though capabilities to process and preserve substantial portions of the useable food are limited. In light of the harvest of 6685 seals, 2989 walrus, 39 whales, 200 belugas and 79 polar bears, the total quantity of edible products is substantial and consequently the amount of loss from spoilage is also substantial probably exceeding 1/2 million pounds. Again the harvest figures do not include all villages that take marine mammals nor necessarily the entire harvest at these villages listed. Conclusions derived from the harvest data should be considered minimum.

cc. C. Grauvogel
H. Reynolds
D. Johnson

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* does not include 79 calves

Point Hope
1976

MONTH	Young Erig	Erig	Pusa	Phoca	Histrio	male Walrus	female Walrus	Polar Bear	Polar Bear	Whales
								8*	6*	
January		↑	↑	↑	↑					
February										
March		47	20	20	1					
April										4
May										4
June										
July						3	1			
August		↓	↓	↓	↓					
September										
October										
November										
December								6	5	
TOTAL		47	20	20	1	3	1	14	11	8
* One sex unknown not included in total; 20 additional bears estimated taken during the winter but not included in harvest total.										

	Male	Female
1. Age		
2. Sex		
3. Breed		
4. Color		
5. Height		
6. Weight		
7. Length		
8. Width		
9. Depth		
10. Circumference		
11. Surface Area		
12. Volume		
13. Density		
14. Temperature		
15. Humidity		
16. Pressure		
17. Sound		
18. Light		
19. Heat		
20. Motion		
21. Force		
22. Energy		
23. Power		
24. Work		
25. Heat		
26. Light		
27. Sound		
28. Motion		
29. Force		
30. Energy		
31. Power		
32. Work		
33. Heat		
34. Light		
35. Sound		
36. Motion		
37. Force		
38. Energy		
39. Power		
40. Work		
41. Heat		
42. Light		
43. Sound		
44. Motion		
45. Force		
46. Energy		
47. Power		
48. Work		
49. Heat		
50. Light		
51. Sound		
52. Motion		
53. Force		
54. Energy		
55. Power		
56. Work		
57. Heat		
58. Light		
59. Sound		
60. Motion		
61. Force		
62. Energy		
63. Power		
64. Work		
65. Heat		
66. Light		
67. Sound		
68. Motion		
69. Force		
70. Energy		
71. Power		
72. Work		
73. Heat		
74. Light		
75. Sound		
76. Motion		
77. Force		
78. Energy		
79. Power		
80. Work		
81. Heat		
82. Light		
83. Sound		
84. Motion		
85. Force		
86. Energy		
87. Power		
88. Work		
89. Heat		
90. Light		
91. Sound		
92. Motion		
93. Force		
94. Energy		
95. Power		
96. Work		
97. Heat		
98. Light		
99. Sound		
100. Motion		
101. Force		
102. Energy		
103. Power		
104. Work		
105. Heat		
106. Light		
107. Sound		
108. Motion		
109. Force		
110. Energy		
111. Power		
112. Work		
113. Heat		
114. Light		
115. Sound		
116. Motion		
117. Force		
118. Energy		
119. Power		
120. Work		
121. Heat		
122. Light		
123. Sound		
124. Motion		
125. Force		
126. Energy		
127. Power		
128. Work		
129. Heat		
130. Light		
131. Sound		
132. Motion		
133. Force		
134. Energy		
135. Power		
136. Work		
137. Heat		
138. Light		
139. Sound		
140. Motion		
141. Force		
142. Energy		
143. Power		
144. Work		
145. Heat		
146. Light		
147. Sound		
148. Motion		
149. Force		

* does not include 20 calves	
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ERIG ERIG RUSA PABCA MISTRTO WATRUS WATRUS Bear Bear Whales

[illegible]

Gambell 1974

♂♂

♀♀

♂♂
Polar Bear♀♀
Polar Bear

Whales

MONTH	Erig	Erig	Pusa	Phoca	Histrio	Walrus	Walrus	Polar Bear	Polar Bear	Whales
			*							
January		↑	*	*	*	↑	↑			
February		↑	*	*	*	16	10			
March		28	*	*	*	↓	↓			
April		↓	*	*	*	↓	↓			1
May		59	22			↑	↑			
June		16	7			255 ^{ww}	245 ^{ww}			
July										
August	2		7	24		2				
September		4		67		↑	↑			
October		1	6	15		↑	↑		1 ^{vvv}	
November		7	11	17	2	20 20	18			
December		2	19			↓	↓			
TOTAL	2	117	72	123	2	293 303	263		1	1

* 172 seals taken during this period; species and sex unknown; not included in total

** 176 calves not included in the harvest figures

*** accompanied by a cub which was also taken

Buckland 1976.

[illegible]

Barrow 1976

[illegible]

1976

♂♂ ♀♀

* Does not include 10 calves

Kivalina 1976

♂♂

♀ ♀

♂♂

♀♂

Polar

Polar

MONTH

Erig

Erig

Pusa

Phoca

Histrion

Wairus

Walrus

Bear

Bear

Whales

[illegible]

♂♂	♀♀	♂♂	♀♀
		Polar	Polar

[illegible]

Male	♀♀	♂♂	♀♀
Walrus	Walrus	Polar Bear	Polar Bear

* does not include 4 calves

Wales 1976

Male Female Male Female
Walrus Walrus Polar Bear Polar Bear

Month	Erig	Erig	Pusa	Phoca	Histrio	Walrus	Walrus	Bear	Bear	Whales
January										
February										
March										
April										
May										
June		14	8	1		58	27			
July		6	5			7	6			
August										
September										
October										
November										
December								← 19 →		
TOTAL		20	24	1		65*	33*	19		

*Does not include 11 calves

