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A Status Report
Pertaining to Management of Pacific Walrus
during calendar year 1976

Prepared by

John J. Burns

Marine Mammals Biologist

Alaska Department of Fish and Game

Division of Game

Support Building

Juneau, Alaska 99801

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After very lengthy proceedings spanning the time period from January 1973 to April 1976 the State of Alaska was granted management authority for Pacific walrus by the United States Department of Interior. Implementation of a required waiver of the Marine Mammal Protection Act and return of management authority was accomplished on April 7, 1976 (Attachment A).

Upon receipt of notification, the State of Alaska immediately effected emergency regulations pertaining to hunting of Pacific walrus (Attachment B). These regulations became effective on April 16, 1976, at which time the important spring walrus hunting season was already underway.

The following report is a review of the walrus management program undertaken by the Alaska Department of Fish and Game during the year 1976 as required under terms of the Marine Mammal Protection Act and published in the Federal Register (Vol. 40, No. 249, Wednesday, December 24, 1975). Format for this report follows that which was published in the Federal Register (op. cit). The reported harvest data includes the number of walrus taken during the entire calendar year of 1976.

(1) Any changes in the State laws or regulations.

Based on the information available to us, one modification additional to the regulations approved by the Federal government was made and implemented by the State of Alaska. This modification was to Section 100., 5 AAC 81.100.(1) which implemented a minimum caliber restriction

for the taking of walrus. The pertinent regulation in effect after 16 April 1976 reads as follows:

5 AAC 81.100. Marine Mammals. Marine mammals may be legally taken only:

(1) with a hand held rifle using a centerfire cartridge, except rifles capable of fully automatic fire and, provided further that walrus may be hunted only with a rifle having a caliber of .264 (6.5mm) or larger (except .30-30 caliber rifle may not be used to take walrus).

This change was published in the Federal Register (Vol. 41, No. 199, Wednesday, October 13, 1976, p. 44875.

The intent of this regulation is to minimize the crippling and loss of animals which occurs with the use of smaller caliber weapons.

(2) Any new data on the marine mammal stocks or the marine ecosystems in question.

During 1976 the main direction of efforts by personnel of the Alaska Department were to implement the new management program through presence and surveillance at the remote major walrus hunting sites, monitoring of the statewide walrus harvest and surveillance of the Walrus Islands State Game Sanctuary. Biological studies conducted in addition to these management efforts included the examination of specimen material, mainly reproductive tracts, which were obtained during 1975, determination of age composition of the 1975 harvest and evaluation of data from other sources (mainly current Soviet literature).

Significant findings, based on a sample of ovaries from 165 female walrus older than three years taken in 1975, are as follows:

Sample size - 165

Number pregnant when taken - 56 (34%)

Number postparturient when taken - 84 (51%)

Number barren when taken - 21 (13%)

Number sexually immature when taken - 4 (2%)

Excluding the two sexually immature females the sample of 163 animals exhibited indications of 631 probable conceptions for an average of 3.87 conceptions per female.

There was a significant difference in the reproductive status of females taken at the different hunting sites. Those taken at Gambell tended to be younger, included a larger number of recently postparturient animals and the mean number of pregnancies was lower than for females taken at other locations. These differences are indicated in the summaries below:

A. Reproductive status of female walrus taken at Gambell and Diomedede during April-June 1975.

Village	Percent barren	Percent postpartum	Percent pregnant	Sample size
Gambell	0	81	19	43
Diomedede	17	43	40	112

B. Mean number of probable conceptions per female walrus taken at Gambell, Diomedede and Savoonga, April-June 1975.

Village	Sample Size	Total number of probable conceptions	\bar{X}
Gambell	43	139	3.23
Diomedede and Savoonga	120	492	4.10

C. Mean number of conceptions for females which were barren, pregnant or post-parturient when taken during April-June 1975.

Reproductive status	Sample size	Total number of probable conceptions	\bar{X}
Barren	20	93	4.65
Postparturient	84	286	3.40
Pregnant	56	252	4.50

During 1975, intensive surveys of walrus were conducted by both Soviet and American investigators. The preliminary results of these surveys conducted during September and October were made available during 1976.

The Soviet data, reported by V. N. Golt'sev, was translated by J. J. Burns of our Fairbanks staff and is attached as Attachment C. This report indicated that 128 to 130 thousand walrus were present in the Soviet sector of the Bering and Chukchi Seas during the time of the surveys.

Dr. James Estes, U. S. Fish and Wildlife Service, was in charge of conducting aerial surveys in the American sector of the Chukchi Sea in September 1975. Alaska Department of Fish and Game personnel participated. His estimate of walruses in the eastern Chukchi Sea was 75,000-80,000. It is known that during the time of both of these surveys there were also 10,000-12,000 walruses in Bristol Bay.

Due to the large proportion of walruses actually photographed and counted, the Soviet estimate is reasonably reliable. The estimate for Bristol Bay is also reasonably reliable as more than 10,000 animals were counted on Round Island at one time. The estimate based on surveys in eastern Chukchi Sea is probably subject to the greatest number of problems related to survey conditions, sampling procedures and the distribution of animals. There is also the possibility that a significant number of animals which were in the eastern Chukchi Sea in late September were in the western regions during October. However, this possibility is not very great as large numbers of walruses remained in the eastern Chukchi Sea, moved south during October and passed through eastern Bering Strait unusually early in November.

The high estimate of combined Soviet and American information indicates a population of 232,000 walruses. The low estimate is 215,000. For the sake of a conservative "management" estimate, we have been using a figure of 170,000. It now appears that this management estimate is indeed safely conservative and could probably be raised to 200,000, although raising it would have little bearing on the management plan implemented by the State.

Information from investigators studying the trophic relationships and food habits of Pacific walrus are that the population is presently at or very close to carrying capacity (Fay, personal communication; Stoker, personal communication).

(3) All available harvest data.

Harvest data for 1976 were obtained and compiled primarily by Messers. Carl Grauyogel and John Matthews, at the Nome area office. The total harvest during 1976 was as follows:

Walrus harvest in Alaska during 1976

Area	Walrus Harvested			Total
	Males	Females	Calves	
Yukon-Kuskokwim	15	6	0	21
Gambell	293	273	176	742
Savoonga	413	164	79	656
Nome-King Island	162	108	10	280
Teller	0	0	0	0
Brevig Mission	18	5	0	23
Wales	65	33	11	109
Diomede	519	200	20	739
Shishmaref	0	0	0	0
Kivalina	1	0	0	1
Point Hope	3	1	0	4
Point Lay	13	6	0	19
Wainwright	203	50	4	257
Barrow	115	21	2	138
	<u>1,820</u>	<u>867</u>	<u>302</u>	<u>2,989</u>

This total harvest of 2,989 walrus was comprised of 61 percent males older than one year, 29 percent females older than one year and 10 percent calves of either sex.

The geographical and seasonal distribution of this harvest are indicated in subsections (A) and (B), below:

(A) Geographical Distribution of Harvest

Bering Sea - 2,570 animals (86% of total)
1,485 males (58%)
789 females (31%)
296 calves (11%)

Chukchi Sea - 419 animals (14% of total)
335 males (80%)
78 females (19%)
6 calves (1%)

(B) Seasonal Distribution of Harvest

January-March, 50 animals (2%)
April-June, 2,444 animals (82%)
July-September, 436 animals (14%)
October-December, 59 animals (2%)

(4) A summary of all research activity on the stocks or ecosystem in question.

As indicated in the introduction, much of the effort by the Alaska Department of Fish and Game, during 1976, was directed toward reestablishing a management program. During the main spring and summer walrus hunting seasons Department personnel were stationed at villages in the Yukon-Kuskokwim delta, and at Nome, Gambell, Savoonga, King Island, Wales, Little Diomed Island, Shishmaref, Wainwright and Barrow. Two men were also stationed on Round Island, part of the Walrus Islands State Game Sanctuary, from 23 August to 28 September.

The efforts of personnel stationed at the above locations were directed toward monitoring the harvests (reported in section (3) above), enforcing the newly reestablished regulations and, in the case of personnel stationed on Round Island, to protect walrus from illegal harassment.

Research involvements by ADF&G personnel specifically directed toward walrus were limited to the analysis of a large amount of specimen

material collected during 1975. A complete report of these studies, including the information presented in section (2) (above) is presently in preparation.

A summary of all research activity on the ecosystem in question is clearly beyond the reasonable scope of this annual status report. The Bering, Chukchi, Beaufort and East Siberian seas comprise a huge area which is subject to exploitation and investigation by a large number of people, representing many disciplines and many nations. The American research effort during 1976, dealing only with studies pertinent to development of the outer continental shelf, would be difficult to "summarize." Additionally, the work of individual OCS investigators is available through established channels.

The Alaska Department of Fish and Game requests that a reasonable approach to this section of the annual report be taken and the following very brief summary of information pertinent to the Pacific walrus be considered acceptable.

(A) Total harvest of walrus during 1976 was 4,260 animals of which 1,270 were reported as taken by Soviet hunters and 2,989 by Americans.

(B) Study by ADF&G personnel of reproductive aspects of walrus biology based on samples acquired in 1975 indicate that the mean age of the female segment of the population continues to increase and that, correspondingly, the mean number of conceptions per female is higher than indicated in previous studies. Additionally, the proportion of

barren females and the overall proportion of nonparturient females is increasing. These parameters probably indicate a reduction in the rate of population growth as it reaches carrying capacity of the habitat.

(C) Current studies of trophic relationships and food habits of Pacific walrus (Fay and Stoker, in prep.) also suggest a population at or very close to carrying capacity.

(D) Estimates of the size of the Pacific walrus population have been refined considerably as a result of joint US-USSR assessment programs. The population, as of fall 1975, was estimated at 200,000 to 232,000 walrus.

(5) Any changes in the information provided with the original request for approval.

The most significant change in the information provided with the original request for approval is that the population estimate of Pacific walrus upon which the request was based has indeed proven extremely conservative.

(6) A summary of all enforcement activity, including permits issued, skins sealed, reports under permits, investigations undertaken and their dispositions.

(A) Permits and Tags (refer to Table 1).

(B) Enforcement activities.

As a preface to comments on enforcement activities it must be pointed out that the legal right of a state to regulate Native taking of

Table 1. Permits and tags for walrus, or parts thereof, issued during 1976.

Location at which issued	Walrus sport hunting permits	No. successful sport hunters	Nonresident tags	Permits for Walrus Islands	Permits for export of hides	Raw ivory permits
Fairbanks	19	6	-	0	0	0
Anchorage	21	3	-	22*	0	0
Nome	61	28	-	0	0	336
Barrow	1	0	-	0	0	43
Juneau	0	0	-	0	0	0
Totals	102	37	14**	22	0	379

* All permits to visit the Walrus Islands State Game Sanctuary were issued by field offices of the Anchorage region. Seven were issued at King Salmon, 12 at Dillingham and 3 at Anchorage.

** Nonresident walrus hunting tags are sold by license vendors. All records are reported to the Alaska Department of Revenue. That department reported that a total of 14 nonresident tags were sold in 1976.

marine mammals is a question which, as yet, has not been resolved. At least one active case, a class action suit by residents of the Bristol Bay area, is based on the premise that a state has no right, even if management authority is returned, to regulate Native taking for subsistence purposes.

The State of Alaska is proceeding on the basis that we not only do have the legal authority but, in accordance with requirements for effective walrus management and the intent of the Marine Mammal Protection Act, we also have an obligation to do so. Some ramifications of this question are addressed in Attachment D.

Enforcement actions are one thing. Judicial processing of violations is another. The courts are reluctant to prosecute violations by Native hunters, indicating that the legal questions of authority are still unresolved.

Persons providing legal advise to the various Native organizations are well aware of these ambiguities. According to several sources, the Native hunters are being informed that State regulations do not apply and will not be sustained in court. Quite obviously, the situation at present is not optimum.

An interesting case in point involves the illegal taking of walrus on the Walrus Islands State Game Sanctuary which occurred during the late summer of 1976.

The incident was observed by Fish and Game employees, recorded photographically, the violators were confronted at the time, waste of walrus meat was involved, the Fish and Game employees were physically assaulted (but prevailed), and the incident was reported to the Department of Public Safety, Division of Fish and Wildlife Protection. They, in turn, followed up and issued citations when the offenders returned to the mainland. The defendants pled nolo contendere and immediately challenged the State on two points: (1) that the State of Alaska has no legal basis to regulate the taking of marine mammals by Native hunters; and (2) that the sanctuary was not legally marked and posted.

This very important case is still pending. The decision may determine if, indeed, required conservation programs can, in fact, be implemented by the State of Alaska.

Records of other enforcement activities are compiled by Fish and Wildlife Protection Officers of the Department of Public Safety. A summary of marine mammal related enforcement activities is attached as Attachment E.

These records do not reflect many routine enforcement activities which occurred in 1976, such as general surveillance activities in villages, routine checks of business establishments which handle ivory products, the checking and interview of sport hunters or the numerous public meetings conducted by Fish and Game personnel.

(7) Present budget and staffing level for walrus related activities.

No one person works solely (full time) on walrus. However, many full-time (permanent) employees are involved with the walrus management and research program. Of course the intensive periods of activity require a critical mass of effort during the main spring hunting season. Also, during those years when intensive study of population parameters is undertaken (every 3 to 5 years) the requirements for laboratory help are considerably greater. During the calendar year 1976 the approximate number of man-months devoted to programs pertaining to walrus was as follows:

(A) Man-months - Permanent employees

Nome	-	15.5
Kotzebue	-	1.5
Barrow	-	1.5
Fairbanks	-	7.5
King Salmon	-	2.0
Anchorage	-	1.0
Juneau	-	2.5

Total effort - Permanent Personnel - 31.5 man-months

(B) Man-Months - Temporary employees

Walrus Islands	-	2.0
Hunting villages (Bering Sea)	-	7.5
Hunting villages (Chukchi Sea)	-	4.0
Laboratory work	-	4.0
Record compilation	-	1.0
Clerical	-	1.5

Total effort - Temporary Personnel - 20.0 man-months

It should be noted that the effort indicated above does not include any estimate of time directed toward walrus management by employees of the Division of Fish and Wildlife Protection.

The estimated funding level of programs carried out by ADF&G and pertaining to walrus in 1976, including personnel services and operating funds, was \$160,000.

(8) Any other information which the Director may request, or which the State deems necessary or advisable.

The State of Alaska has submitted, for Federal review, revised regulations for walrus hunting which are intended to reduce the annual walrus harvest and stabilize it at lower level. We request that these regulations be approved.