

Quarterly Report

Contract #02-5-022-53

Research Unit #230

Reporting Period: October-December 1977

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The natural history and ecology of the bearded seal
(Erignathus barbatus) and the ringed seal (Phoca hispida)

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31 December 1977

I. Task Objectives

1. Summarization and evaluation of existing literature and available unpublished data on reproduction, distribution, abundance, food habits and human dependence on bearded and ringed seals in the Bering, Chukchi and Beaufort Seas.
2. Acquisition of large amounts of specimen material required for an understanding of productivity, growth rates and mortality in these two species.
3. Acquisition of baseline data on mortality (including parasitology, diseases, predation and human harvest) of ringed and bearded seal.
4. Determination of population structure of bearded and ringed seals as indicated by composition of harvest taken by Eskimo subsistence hunters.
5. Initial assessment of regional differences in density and distribution of ringed and bearded seals in relation to geographic areas and, to a lesser extent, in relation to major habitat condition.
6. Acquisition of additional information on seasonal migrations.

II. Field and Laboratory Activities

A. Schedule

<u>Date</u>	<u>Location</u>	<u>Activity</u>	<u>Personnel</u>
October-December	Fairbanks	Analyses of seal specimens and specimen data	Burns, Eley
October-December	Fairbanks	Data management	Eley, Frost
October-November	Shishmaref	Collection of seal specimens	Tremaine
October	Fairbanks	Attended OCSEAP seabird and marine mammal meeting	Burns, Eley
November	Prudhoe Bay	Collection of seal specimens	Eley, Lowry
November	Barrow	Collection of seal specimens	Eley, Burns
November	Nome	Collection of seal specimens	Frost
December	San Diego	Attended marine mammal biology conference	Burns, Eley
December	Seattle	Attended marine mammals-fisheries interactions conference	Eley, Burns
December	Fairbanks	Preparation of quarterly report	Eley, Burns

B. Scientific Party

<u>Name</u>	<u>Affiliation</u>	<u>Role</u>
John J. Burns	ADF&G	Principal Investigator
Thomas J. Eley	ADF&G	Principal Investigator
Kathryn Frost	ADF&G	Marine Mammals Biologist
Lloyd Lowry	ADF&G	Marine Mammals Biologist
Glenn Seaman	ADF&G	Marine Mammals Technician
Dan Strickland	ADF&G	Marine Mammals Technician
Richard Tremaine	ADF&G	Marine Mammals Technician
Robin Lynn	ADF&G	Marine Mammals Technician

C. Analytical Methods

For a discussion of methods refer to RU#230 Annual Report, 1 April 1977.

Whenever possible meat from seals collected for this research is given to residents of the appropriate coastal area.

D. Data Collected

A total of 29 male, 28 female and 4 ringed seals of undetermined sex were obtained this quarter (Table 1) yielding a 1:1 sex ratio. Seventeen bearded seals were collected and consisted of 9 males and 8 females. The sex ratio of bearded seals was 1 male to 1 female.

Table 1. Seal specimens obtained during October-December, 1977.

Location	Sex			Total
	Male	Female	Unknown	
Shishmaref				
Ringed Seal	10	7	0	17
Bearded Seal	7	7	0	14
Barrow				
Ringed Seal	8	13	1	22
Bearded Seal	1	0	0	1
Prudhoe Bay				
Ringed Seal	11	8	3	22
Bearded Seal	1	1	0	2
Total				
Ringed Seal	29	28	4	61
Bearded Seal	9	8	0	17

III and IV. Results and Preliminary Interpretation

During this quarter we continued our major field effort directed specifically at the Beaufort Sea. With the excellent OCSEAP provided helicopter support, we were quite successful in acquiring a sample of ringed and bearded seals in the Beaufort Sea (Table 1) during the early winter when our previous samples were inadequate. In addition, fall and early winter collections at Shishmaref during the seal harvest by Native hunters were productive.

Laboratory activities consisted mainly of processing male and female reproductive tracts and determining ages of seals by examination of claw and tooth annuli. In addition, parasitological determinations were made.

Data management was continued on an ongoing basis, as was the acquisition of information from other related studies, mainly those conducted by Soviet investigators.

A detailed presentation and discussion of results will be presented in our 1978 annual report.

V. Problems Encountered/Recommended Changes

None

VI. Estimates of Funds Expended

As of 30 November we have expended the following approximate amounts during FY78:

Salaries and benefits	\$6,995.42
Travel and per diem	1,135.04
Contractual services	709.13
Commodities	654.61
Equipment	24.25
Total Expenditures	<u>\$9,518.45</u>