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**Counts of Steller Sea Lions at Kamchatka
and the Commander Islands, U.S.S.R.,
During June and July 1989**

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COUNTS OF STELLER SEA LIONS AT KAMCHATKA AND THE
COMMANDER ISLANDS, U.S.S.R., DURING JUNE AND JULY 1989

by

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⁴This report is one of two Processed Reports published in 1991
containing information on Steller sea lions in the Soviet
Union. The second is a summary of Steller sea lion counts
throughout the Soviet Union.

PREFACE

by
R. V. Miller
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U.S.-U.S.S.R. Marine Mammal Project

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The Alaska Fisheries Science Center's National Marine Mammal Laboratory has, in recent years, enlarged the scope of its studies on Steller sea lions (Eumetopias jubatus) to coastal areas of the Soviet Union to obtain more complete information on this species which has suffered a great reduction in abundance over the last two decades. Alaska Fisheries Science Center and Soviet scientists have carried out joint studies on both Alaskan and Kuril Island populations of sea lions, under the auspices of the U.S.-U.S.S.R. Environmental Protection Agreement, to develop range-wide estimates of abundance and information on distribution, movements, feeding areas, and behavior. In 1990, Center scientists began planning joint research with scientists at the U.S.S.R. Academy of Sciences in Petropavlovsk, Kamchatka, with a view toward obtaining data on animals in that area as well. Dr. V. N. Burkanov at the Pacific Institute of Geography, U.S.S.R., has submitted this paper for publication in order to make needed information on Steller sea lions available in as timely a manner as possible.

INTRODUCTION

Steller (northern) sea lions (Eumetopias jubatus) are widespread on the nearshore waters of Kamchatka and occur on the eastern coast throughout the year. During summer they haul out at more than 20 sites, but in winter the majority of these sites are covered with ice. A portion of the animals from the northern areas, including the Koryakian Uplands and the Gulf of Karaginskiy (Fig. 1), move to the southern part of the eastern Kamchatka coast and possibly as far south as the Kuril Straits and into western Kamchatka. The rest of the sea lions haul out on drifting ice and near the ice edges in open water.

Steller sea lions are abundant on the western shore of Kamchatka only during the winter, and then they occur in areas where commercial walleye pollock (Theragra chalcogramma) fisheries are active (DALRYB, or Far East Fishing Company). These areas include the continental shelf waters of the Okhotsk Sea between 51° and 54°N. Generally, sea lions haul out near Sivuchiy Cape (Fig. 1 and Table 1 for identification of localities) throughout the winter. Sea lion numbers decrease sharply during May and June and animals cease hauling out at the one rookery on the western coast near Sivuchiy Cape. Only solitary animals in the water are observed in this area during winter.

METHODS

We conducted aerial surveys (70 hours) of Steller sea lions in Kamchatka from an AN-2⁵ airplane from 8 June to 5 July 1989 (V. Burkanov and A. Semenov) and by boat or from shore at the Commander Islands from 29 June to 14 July 1989 (V. Vertiankin). Three haul-out sites on the Koryakian coast were missed due to inclement weather (Table 1).

The aerial surveys were conducted at 300-400 m altitude and air speed of 160-180 km/h. The aircraft circled over hauled-out sea lions several times to obtain a visual estimate and to take photographs. The observations were made from the open window of the copilot's chair. We used a Zenit-12 camera with through-the-lens system and 300 mm lens and ORWOchrome UT-21 film⁵. After the photographic transparencies were developed, they were projected on a sheet of white paper. Each animal was marked with a pen and counts were made with the projector turned off. A series of slides was used for various sites to increase the accuracy of adult counts. Some sites were surveyed from 2 to 4 times. In those cases we used the count from photographs that had the most favorable conditions (low water; calm, clear weather; smooth water surface). The transparencies were also used to distinguish the number of adult males and other adult animals on the different sites.

⁵Reference to trade names does not imply endorsement by the National Marine Fisheries Service, NOAA.

At the Commander Islands sea lions were counted visually with the aid of binoculars. Pups were also counted at rookeries.

RESULTS

We surveyed 27 of 30 existing Steller sea lion haul-out sites within our study area (Fig. 1). The counts are summarized in Table 1. In all, we counted 2,600-2,800 northern sea lions in Kamchatka, of which 180-200 were adult males.

On the Commander Islands we counted 890 Steller sea lions older than 1 year of age (including 106 adult males) and 185 pups.

The total number of Steller sea lions on haul-out sites and rookeries in Kamchatka and the Commander Islands, when accounting for animals in the water, near shore, and not counted, was estimated by us to be 3,500-3,800 animals, including 300 adult males.

DISCUSSION

In 1982-85, an estimated 10,000-14,000 Steller sea lions were counted during spring and approximately 6,400-12,000 were counted in summer at the same sites examined in 1989 (Burkanov 1986, 1988). These estimates are from 1.6 to 3.5 times the numbers estimated for 1989. However, in 1982-85 the estimates were the average data for the 4 years of survey, unlike the single estimate for 1989. This difference could partially explain the difference between the two counting periods. However, the differences are too great to be explained simply by

differences in methods. There is a definite rapid decline in sea lion abundance. The decline is apparent on some rookeries and haul-out sites in Kamchatka (Gavryushkin Rock, Kekurniy Cape, Urie Cape, Krashenninnikova Cape, and Verkhoturova Island) and on the Commander Islands (Vertiankin and Nikulin 1988). The abundance of Steller sea lions at Vitgenshteyn Cape has declined considerably.

Thus, the decline in abundance of Steller sea lions observed in the eastern Bering Sea (Merrick et al. 1987) has also been observed on sites at Kamchatka. We believe it is important to organize systematic observations of this species and to study the reasons for the observed declines on the rookeries and haul-out locations.

ACKNOWLEDGMENTS

A. M. Burdin, Senior Scientist, Group of Ecology of Marine Mammals, Kamchatka Department of Environment, Pacific Institute of Geography, assisted in counting the projected transparencies of Kamchatka. The aerial surveys were funded by the Pacific Research Institute of Marine Fisheries and Oceanography (TINRO) and Kamchatrybvod. Location names follow the U.S. Coast Pilot.

CITATIONS

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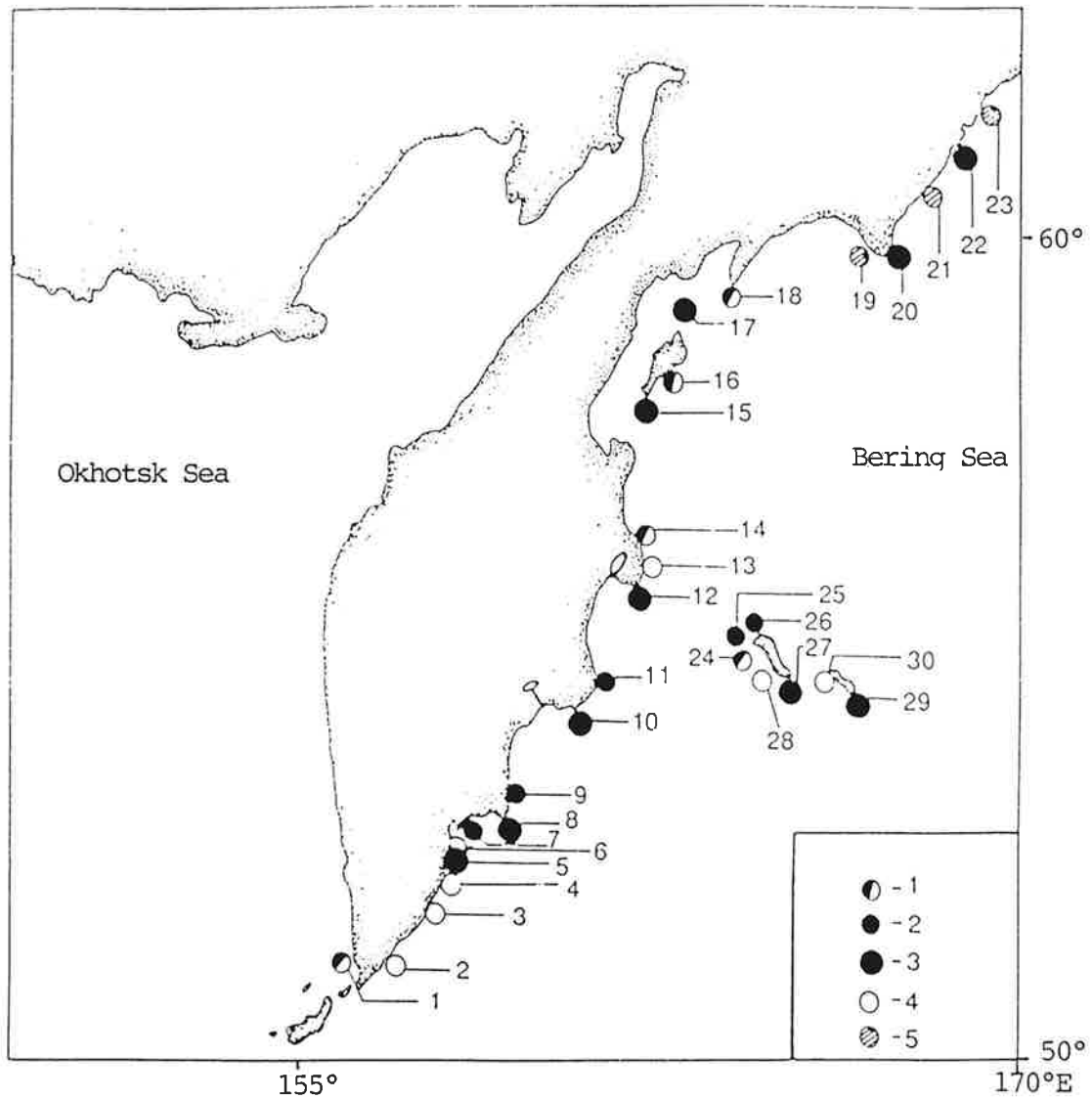


Figure 1.--Localities of Steller sea lion rookeries on the coast of Kamchatka and the Commander Islands, U.S.S.R. during June-July 1989. In the legend, 1 = 1 to 10 sea lions, 2 = 11 to 100 sea lions, 3 = more than 100 sea lions, 4 = zero sea lions, and 5 = location was not surveyed. Key to sites 1-30 is found in Table 1.

Table 1.--The number of northern sea lions on rookeries and haul-out sites of Kamchatka in June-July 1989.

No.	Location	Date	Time	Number			Method	Comment
				Males ¹	Others	Total		
1	Sivuchiy Cape	July 5	1525	2	2	4	visual	low tide, calm
2	Gavryushkin Rock	July 5	1615	0	0	0	visual	clear, calm
3	Krestoviy Cape	July 5	1710	0	0	0	visual	"
4	Sivuchiy Rock	July 5	1730	0	0	0	visual	"
5	Kekurniy Cape	July 5	1830	7	119	126	photo	", low tide
6	Bezimyaniy Reef	July 5	1845	0	0	0	photo	" "
7	Chalaktirskiy Pillar	June 19	1400	8	28	36	photo & visual	8-10m/sec wind
8	Shipunskiy Cape	June 19	1435	19	166	185	photo	calm, cloudy
9	Zheleznaya Bay	June 22	1315	16	27	43	visual	
10	Kozlova Cape	June 22	1520	80	471	551	photo	clear, calm, low tide
11	Kronotskiy Cape	June 22	1600	no data; in water		23	visual	"
12	Kamchatskiy Cape	June 22	1710	34	541	575	photo	low tide, cloudy
13	Afrika Cape	June 22	1730	0	0	0	photo	
14	Sivuchiy Cape ²	June 20	1415	1	2	3	visual	

Table 1.-Continued.

No.	Location	Date	Time	Number			Method	Comment
				Males ¹	Others	Total		
15	Krashennnikova Cape	June 23	1145	5	382	387	photo	calm, clear, low tide
16	Urie Cape	June 23	1104	1	4	5	visual	low tide, rookery is opened
17	Verkhoturova Island	June 21	1020	10	400	410	photo & visual	clear, calm, low tide
18	Govena Cape	June 21	1135	1	8	9	visual	
19	Irene Cape	not surveyed						
20	Stupenchatiy Cape	June 19	1450	nd	nd	225	visual	clear, calm
21	Tirmniy Cape	not surveyed						
22	Vitgenshteyn Cape	June 22	1130	nd	nd	500-600	photo & visual	cloudy, calm
23	Dyryaviy Cape	not surveyed						
Commander Islands								
24	Ariy Rock	June 29	1000	1	0	0	visual	
Medny Island								
29	Southeastern Cape	July 2	1720	68	358	426	visual	+ 177 pups
30	Krasnaya Bay	July 3	1700	0	0	0	visual	

Table 1.-Continued.

No.	Location	Date	Time	Number			Method	Comment
				Males ¹	Others	Total		
	Bering Island							
25	Northwest Cape	July 14	1600	3	33	36	visual	
26	Iushina Cape	July 14	1300	2	16	18	visual	
27	Manati Cape	July 13	1630	32	378	410	visual	+ 8 pups
28	Gladkovskaya Bay	July 13	1400	0	0	0	visual	

¹Adult males.

²Two sites have the same name.

nd = no data.