



**Alaska
Fisheries Science
Center**

**National Marine
Fisheries Service**

U.S. DEPARTMENT OF COMMERCE

AFSC PROCESSED REPORT 91-14

**Present Abundance of Steller Sea Lions
(Eumetopias jubatus) in the U.S.S.R.**

April 1991

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PRESENT ABUNDANCE OF STELLER SEA LIONS
(Eumetopias jubatus) IN THE U.S.S.R.

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April 1991

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³This report is one of two Processed Reports published in 1991
containing information on Steller sea lions in the Soviet
Union. The second pertains to Steller sea lion surveys in
Kamchatka and the Commander Islands during 1989.

PREFACE

by
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In recent years, the scope of joint Soviet and American research activities on Steller sea lions (Eumetopias jubatus) has increased markedly in an effort to better understand the population dynamics of this species. The Steller sea lion has undergone a precipitous decline in abundance over the last two decades, and information on abundance, distribution, movements, and feeding habits throughout its range are essential to identify the factors that have contributed to that decline. The author of this paper, Dr. A. S. Perlov, and his colleagues in the Marine Mammals Laboratory of the Pacific Research Institute of Marine Fisheries and Oceanography (TINRO) in Vladivostok, have long been active in the Marine Mammal Project under the U.S.-U.S.S.R. Environmental Protection Agreement. This group has worked extensively with Alaska Fisheries Science Center scientists in joint studies on Steller sea lions. This paper is a timely summary of trends in sea lion abundance in the U.S.S.R. since the 1960s. We look forward to additional contributions from our joint work over the next several years.

INTRODUCTION

In the Soviet Union, Steller sea lions (Eumetopias jubatus) are found in the Okhotsk Sea, Bering Sea, and north into the Chukchi Sea (Krasheninnikov 1949; Nikulin 1937; Tikhomirov 1964; Perlov 1983). The largest group of these sea lions is concentrated on five of the Kuril Islands; a smaller grouping occurs near eastern Kamchatka and north along the Koriak coast. Small sea lion rookeries occur on the Commander Islands, and on Iony and Iamskie Islands in the Okhotsk Sea. Haul-out sites occur near Hokkaido at LaPerouse Strait (Opasnosti Rock) and on Tyuleniy Island (Robben Island) near Sakhalin.

During the history of sea lion research in the Soviet Union, there has never been an estimate of the total population abundance for any given year. All abundance estimates are rough approximations and based on estimates obtained during different years. Also, the historical data were sometimes incomplete.

In 1966, nearly 35,000 sea lions were estimated to inhabit the Kuril Islands, Commander Islands, Iony Island, and Kamchatka area (Marakov 1966). Subsequent analysis of published information and inquiries to local authorities led me to reduce this estimate to 26,000 Steller sea lions, including animals in the Bering Sea (Perlov 1975). Part of the reduction was based on the consideration that Marakov's estimate was too high (Perlov 1977) since the amount of information available for the Kamchatka coast was minimal.

KAMCHATKA PENINSULA

Today we recognize 21 haul-out sites on the Kamchatka Peninsula and east to Navarin Point. Counts taken at these sites from 1982 to 1984 show a seasonal change in abundance, with maximum counts of 8,700-12,000 in the spring and minimum estimates of 1,800-2,300 in winter (Burkanov 1986). Population counts in 1986 and 1987 showed a maximum population size of 10,000-15,000 sea lions (Burkanov et al. 1988). In 1989, aerial counts showed that the number of sea lions on these sites had declined to about 5,000, and in 1990 aerial counts dropped to 3,500-3,800 animals. It seems reasonable, then, that historically there were at least 10,000 sea lions in Kamchatka. However in recent years, the Kamchatka population abundance has declined, just as the U.S. Bering Sea population has declined in abundance (Merrick et al. 1987).

KURIL ISLANDS

The Kuril Islands' populations compose the largest group of Steller sea lions in the Soviet Union. This is the only location where small increases in numbers have occurred. These islands are considered to be the reproductive center of this species in Soviet waters and include the primary rookeries where 98% of all pupping takes place (Perlov 1982). Investigators have given more attention to this area and studies from 1955 to 1968 show that the abundance of sea lions was stable at about 15,000-20,000 (Klumov 1957, Belkin 1966, Nikolaev 1965, Voronov 1974, Perlov

1970) (Fig. 1). The estimates of abundance varied with time of year of the survey, which was consistent with seasonal variations observed at the Commander Islands (Nesterov 1964, Khromovskikh 1966). But an analysis of data from 1962 to 1968 showed that the Kuril Island population abundance may be decreasing (Perlov 1970). This was subsequently verified with clear and sharp reductions in both pup production (at least one-half) and other sex and age groups (Perlov 1982) (Fig. 2). In spite of the absence of complete estimates covering all rookeries and haul-out sites, the dynamics of the population indicate a decline in the population of at least one-third of its former abundance. For example, on Matua Island there are currently no sea lions where previously there were 400. At present the Kuril Island population is estimated at not more than 5,000 animals.

COMMANDER ISLANDS

During the late 1800s there was a large concentration of sea lions on the Commander Islands (Krasheninnikov 1949), but they were reduced in number and dispersed during northern fur seal (Callorhinus ursinus) harvesting (Grebnitskiy 1912). By the middle of the 19th century Steller sea lions stopped forming rookeries and then ceased coming to the islands (Khromovskikh 1966). There are no data during the intervening years, until 1932 when Barabash-Nikiforov (1936) pointed out the existence of sea lions in the nearshore waters of the islands during winter and their subsequent migration to east Kamchatka in April for

breeding. After that report, Steller sea lions were considered as a representative fauna of the Commander Islands, but it was stressed that only male animals were present (excluding one pregnant female observed in 1932). These observations, and information on hunting of sea lions presented by Ilina (1950), confirm the sea lion's continued presence on the islands. During 1941-45, and 1952-57, the animals were known to occupy 10 different haul-out sites in the islands' coasts and the number reached 4,000 individuals (Marakov and Nesterov 1958). The population continued to increase through March 1965 when the population on the Commander Islands was more than 10,000 individuals (Khromovskikh 1966). By May the number of sea lions decreased by five times the earlier counts, indicating sharp differences in abundance through the year. In general we consider that summer counts (breeding season) provide the best estimate of the resident sea lion population on the Commander Islands. The summer estimate was 3,500 individuals (Perlov 1977). The large increase in abundance after the breeding season is principally from males migrating into the area from other locations.

During the time when the population began to increase, principally by addition of males, small rookery-type groups were formed and a few pups were born. Since 1969 pupping has been observed every year, and the number of pups born has increased slightly from year to year (Chugunkov 1968; Chelnokov 1971). However, since 1968 the increase in sea lion abundance had

slowed, and in 1977 the number of animals declined to 4,500 (Mymrin and Fomin 1978); by 1983 animal numbers on some rookeries were halved (Chelnokov 1983). From 1982 to 1987 sea lions abundance during spring and summer was estimated at 2,400-2,600 individuals, and in 1989 only 890 sea lions were counted, including 185 pups. Also, the maximum number observed on the Commander Islands has changed from the winter to spring and summer, and the number of rookeries has declined from 10 to 5. Rookeries at Krasnaya Bay and Gladkovskaya Bay may have disappeared (Vertiankin and Nikulin 1988).

OKHOTSK SEA

Small sea lion rookeries have been known to occur in the Okhotsk Sea for many years. Slyunin (1900) mentions limited hunting of sea lions on Iamskie Islands and Nikulin (1937) provides a rough estimate of numbers on Iona Island. For many years these were the only data on these islands, and today these sites are rarely investigated. Initially, estimates of sea lion abundance on Iona Island totaled about 5,000 animals (Nikulin 1937). Counts conducted in 1974 at Iona Island estimated 1,200 sea lions there (Perlov 1977). In 1989 the situation improved somewhat with 1,500 animals counted. The low abundance level of this population can probably be attributed to severe pup exploitation in the 1930s and 1940s when nearly all the pups born each year were killed. Since that level of exploitation, the population has not been able to recover.

A similar situation has been observed on the sole rookery at Iamskie Islands. Historically the number of sea lions there was estimated at 1,000 individuals (Nikulin 1937) and in 1988⁴ 875 animals were counted; the number of pups there was stable at about 230-270 pups. Quite possibly the reason for the low level of this population is the same as at Iony Island.

Apparently at Tyuleniy Island a small number of sea lions are always concentrated near the northern fur seal rookery; however regular counts began only recently. Investigators from TINRO (Pacific Research Institute of Marine Fisheries and Oceanography, U.S.S.R.) and the Sakhalin fishery co-op worked on the island at different times of the year and began sea lion counts in 1957. About 100-210 sea lions were counted during the summer to autumn period at points near the fur seal rookeries. No pups were known to be born on the island until 1974. During subsequent years some pups were born in some years and in other years no pups were born. By 1989 a mean total of 200 sea lions were found to occur on the island and nearly 35 pups were born annually.

Opasnosti Rock in LaPerouse Strait is not a consistent rookery or haul-out site, but sometimes nearly 300 individuals occur there.

⁴Data provided by L. T. Sayakhova, Acting Director of the Reservation "Magadanskiy" which includes Iamskie Islands.

SUMMARY

A comparison of recent and historic counts of Steller sea lions in the Soviet Union economic zone is presented in Table 1. The data indicate that the present population is one-third the size of historic populations (maximum counts of 16,300 versus 52,300). In several regions the decrease is accompanied by a complete disappearance of the rookery. In the Kuril Islands, the decline seems to have stopped and the population is stable at low levels. In the Bering Sea the decrease is likely to continue. In the Okhotsk Sea the population has been stable over a long period but at a low level. The low population levels there may be associated with severe hunting of sea lions in the past. After cessation of hunting, these separated populations did not recover but have remained in a depressed condition. Interestingly, the process of the large decline observed in the Bering Sea and elsewhere has not, at present, affected the sea lions in the Okhotsk Sea.

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Table 1.--Counts of Steller sea lions (Eumetopias jubatus) during 1988-89 compared to counts prior to the decline in abundance.

Location	1988-89		Different years in past	
	Number	Source	Number	Source
Kamchatka	3,500-3,800	Burkanov pers. com. ^a	10,000-14,000	Burkanov et al. 1988
Kuril Islands	5,000-7,000	TINRO ^b data	15,000-20,000	Klumov 1957 Belkin 1966 Perlov 1970
Commander Islands	2,400-2,600 (<1,000 in 1989)	Vertiankin and Nikulin 1988	10,000	Nesterov 1964 Khromovskikh 1966
Iony Island	1,500	TINRO data	5,000-6,000 1,200	Nikulin 1937 Perlov 1977
Iamskie Island	900	Sayakhova ^c pers. com.	1,000 800	Nikulin 1937 Perlov 1977
Tyulenii Island	200	TINRO data	200	TINRO archival data
Opasnosti Rock	300	R.N. Lakeev ^d Sakhalinrybvod inspector	300	R.N. Lakeev Sakhalinrybvod inspector
Total	13,800-16,300		42,500-52,300	

Table 1.--Continued.

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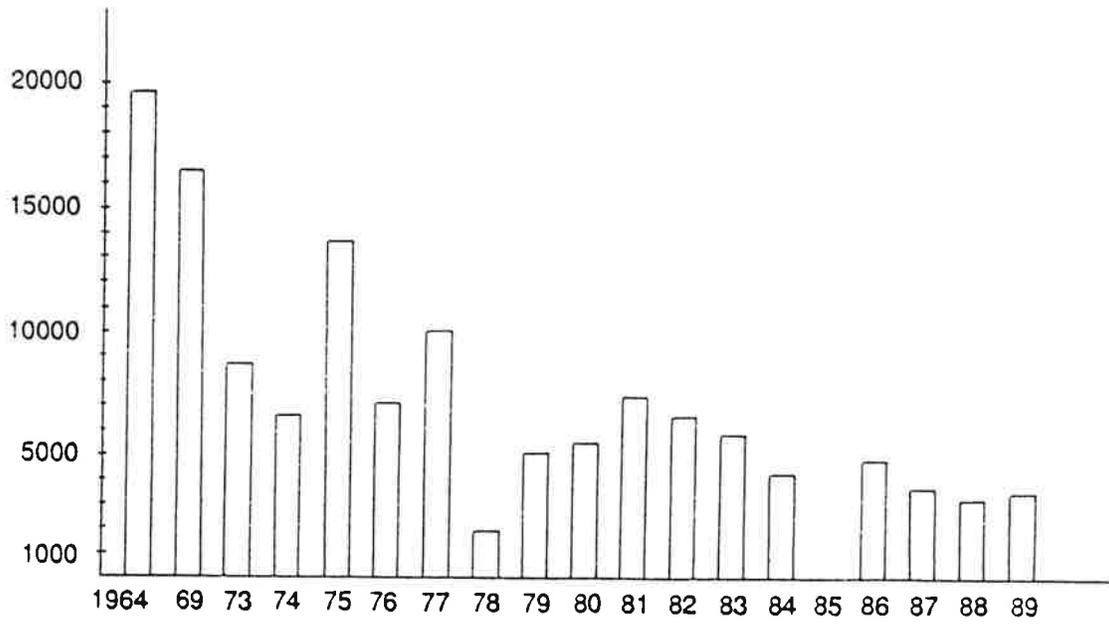


Figure 1.--Abundance of Steller sea lions observed in the Kuril Islands 1964-89 (does not include pups).

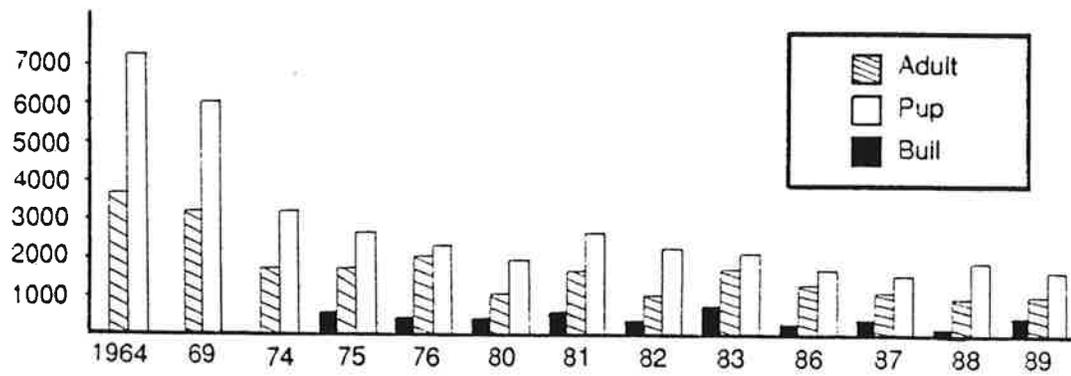


Figure 2.--Abundance of Steller sea lions in the Kuril Islands by general age and sex groups, 1964-89.