

Spatial distribution of Steller sea lion (*Eumetopias jubatus*) males on non-reproductive section of rookery.

Alexey V. Altukhov <sup>1</sup>, Vladimir N. Burkanov <sup>2,3</sup>.

1 – Moscow State University named by Lomonosov, Moscow, Russia;

2 – Kamchatka Branch of the Pacific Institute of Geography, Far East Branch of Russian Academy of Sciences, Petropavlovsk - Kamchatskiy, Russia ;

3 – Natural Resources Consultants, Inc., Seattle, USA .

At the end of the reproductive period, the spatial distribution of Steller sea lions on a rookery changes. Females with pups move from reproductive area to the non-breeding sections of the rookery. A unique social environment develops in the post-reproductive period that consists of males and females with pups of different age. The study of these post-reproductive groupings provides a unique opportunity to study the interaction of animals of diverse ages. Observations were performed in 2001 on the non-reproductive section Steller sea lion rookery on Medny Island (Commander Islands). Spatial patterns of animal distribution on the rookery were reconstructed using photographs and behavioral observations of males. Males were separated into 3 age classes: bulls, i.e. males over 7 years in age; 6 - 7 year olds; and 4-5 year olds. Animals were distributed on the territory non-randomly, forming specific, identifiable clusters. The most bulls lay in groups. Only 5% of the mature bulls lay singly. Among males of 6 - 7 years old 25% lay singly while 4-5 year old males were always in groups of the same age-class only.

When females began to arrive to non-reproductive section of the rookery (July 9) the social structure began to change. While the adult bulls' territorial behavior remained consistent, 6-7 year old males spent more time on average interacting with females than adult bulls and 4-5 year old males interacted more with males of the same age (Mann-Whitney U Test  $P < 0.05$ ), splitting their time evenly between play and territorial types of behavior.

In summary, behavior of males on non-reproductive areas of rookery varies with age and status. Young males interact with similar-aged animals mostly, 6-7 year olds interact with females and their territorial behavior is expressed primarily in the presence of females, while territorial behavior of adult bulls is independent of female presence.