

DISTRIBUTION, RELATIVE ABUNDANCE, AND POTENTIAL DISPLACEMENT
OF RINGED SEALS IN ALASKA

Frost, Kathryn J., John J. Burns, and Lloyd F. Lowry
Alaska Department of Fish and Game, 1300 College Road,
Fairbanks, AK 99701

Distribution and abundance of ringed seals off Alaska have been examined through aerial strip transect surveys of hauled out seals conducted in May-June 1970-1985, and on-ice searches for seal lairs using trained dogs in April-May 1982-1984. Highest densities of seals ($0.9-7.1/\text{nm}^2$) have been found on Chukchi Sea shorefast ice, intermediate densities ($0.6-4.2/\text{nm}^2$) on Beaufort Sea shorefast ice, and lowest densities ($0.1-0.4/\text{nm}^2$) on pack ice. Highest densities of hauled out seals occur in areas with 40% or less ice deformation. Most lairs were found in shorefast ice with 20-40% deformation. The highest densities of ringed seal structures were found in the northern Bering and Chukchi seas and the lowest densities in the Beaufort Sea. The relative abundance of structure types varied among study areas with highest proportions of pupping lairs in grids closest to shore in the Chukchi Sea (34-42%) and highest proportions of breathing holes in the Chukchi pack ice (60%) and the Beaufort (47%). Shorefast ice also serves as a stable platform from which several phases of petroleum exploration can be undertaken. Studies have been conducted to examine the possible effects of such activities on ringed seals. Comparisons of seal densities, based on aerial surveys, in "seismic" and "control" areas have produced ambiguous results. A previous study of the fate of seal structures showed that abandonment or altered use by ringed seals occurred mainly within 150 m of seismic lines. Interpretation of aerial and ground studies is complicated by factors such as the variability in seal haulout patterns and in the natural incidence of alteration and refreezing of structures. Studies of the effects of industrial activities on ringed seals are continuing.

SIXTH BIENNIAL CONFERENCE ON THE BIOLOGY OF MARINE MAMMALS

A B S T R A C T S

Hosted by The Vancouver Aquarium

October 22-26, 1985
Vancouver,
British Columbia,



Sponsored by
The Society for
Marine Mammalogy

Canada