

SAMPLING THE SEX/AGE COMPOSITION OF WALRUS POPULATIONS

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Walrus (*Odobenus rosmarus*) can be classified visually to morphological categories that are representative of age classes. This allows sampling for sex/age composition, which is useful in estimating juvenile survival and recruitment into the breeding population. We and co-workers field tested the classification scheme on the Pacific walrus population six times between 1981 and 1984. The data from those tests indicate that (1) classification of animals in the water is highly biased in favor of inflated calf/cow ratios, apparently because calf/cow pairs are easiest to identify, and (2) the ability to classify groups on the ice declines significantly as group size increases and as the training and experience of the observer declines. The potential biases from uneven sampling of the different group sizes on ice can be minimized by better training for observers and by extrapolating to the overall group size frequency. Calf/cow ratios were mainly independent of group size, geographical location, depth of water, time of day, and distance into the pack from the ice edge. Effects of weather were not tested adequately but probably are not significant. The optimal time and place for sampling the Pacific walrus population is in July in the Chukchi Sea pack ice. The optimal sample size for estimating the composition of that population is about 2,500 animals. The method appears to be readily adaptable to other populations.

Abstracts



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