

Estimating Tag Loss Rates for Alaskan Steller Sea Lions

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Long-term population studies of Steller sea lions (*Eumetopias jubatus*) require unique permanent marks for accurate individual identification. Previous tagging efforts suggested high tag loss rates for this species; however tag loss probabilities have not yet been directly estimated. During 2001 and 2002, 226 pups < 6 wks of age were double marked (branded and tagged) by the Alaska Department of Fish and Game at Forrester Island, Southeast Alaska using one of two types of All-Flex® flipper tags. Resighting data collected over the past 6 years were used to assess tag loss rates by tag age and type. For preliminary analyses, we assumed equal probability of detecting whether tags were lost or retained, and calculated proportion of left tags observed lost for all observations in which tag fate was determined with certainty. Loss rates were highest in the first year. Compared to tag type 2, tag type 1 (applied in 2001) had lower initial loss rates (0.30) but higher loss rates after age 1 (0.092). For tag type 2 (applied in 2002), nearly 0.80 were lost by age 1 with 0.036 additional losses per year after age 1. Loss rates were ~0.70 and 0.90 by ages 5-6 for tag types 1 and 2, respectively. Mark-recapture models will be used to estimate tag loss probabilities accounting for probability of resighting tags by tag age and type.



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