

Although actuarial senescence is common in wild vertebrate populations, it is poorly documented for pinnipeds (examined in only 9 of 34 extant species via longitudinal data). Also, annual variation in adult survival of Steller sea lions (SSL) has not yet been examined and may provide information on demographic groups most sensitive to environmental change. Finally, whether covariation between survival and reproductive success occurs in adult male pinnipeds is also largely untested. To address these questions, we used mark recapture models and data from 2,795 SSL pups individually-marked at 4 of 5 rookeries in Southeast Alaska (SEAK) and resighted for 22 years. Sexes differed in age of onset (ages ~16–17 and ~8–9 for females and males, respectively) but not rate of senescence ( $-0.047$  and  $-0.046/\text{age}$  for females and males). Adult males from northern SEAK had greatest annual variability (ranging  $\sim\pm 0.30$  among years), suggesting this demographic group may be the most sensitive indicator of environmental conditions. Annual survival of adult females ranged only  $\sim\pm 0.10$  among years, suggesting that SSL females likely utilize a risk-avoiding strategy that buffers environmental variation by a flexible reproductive output while conserving their own survival. Annual variation in adult survival was higher in northern (an area with higher population growth and survival rates) than in southern SEAK, possibly indicating a more productive but less predictable environment in the north. Finally, annual survival was much higher for territorial than non-territorial males (e.g. survival was 0.82 versus 0.63 at 10 years of age) demonstrating positive covariation between survival and reproductive success in males. Virtually no males were territorial before age 9, and the positive covariation observed resulted in the majority of males alive at older ages being territorial: 22–36% of those alive at 9–10 years were territorial versus 57–71% of those alive at 11–14 years.



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**ABSTRACT BOOK**

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