

($5.9\% \pm 3.8$, $n=9$, t-test, $p=0.001$). However, by 14 to 15 months of age, there was no significant difference between the %BF of SSLs from the western ($17.1\% \pm 7.5$, $n=16$) and eastern stocks ($19.0\% \pm 5.2$; $n=20$, t-test, $p=0.369$). The maximum %BF measured in juvenile SSLs was 33.7% and the minimum was 4.3%. The wide variation in %BF, particularly between the ages of 9 and 19 months, may be a reflection of the weaning status of juveniles.

Body Condition of Free-Ranging Steller Sea Lions Estimated by Deuterium Isotope Dilution

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Steller sea lions (SSLs) (*Eumetopias jubatus*) in western Alaska have shown a dramatic population decline since the late 1970's and have continued to decline through 2000. One hypothesis is that this stock is limited by food availability and/or quality. Changes in diet that adversely affect the overall health of SSLs should be reflected in decreased body condition. Over the past four years, we have used deuterium isotope dilution to estimate percent body fat (%BF) as an index of body condition in 132 SSLs ranging from 2 to 26 months of age. These ongoing studies have been designed to determine how body condition changes in SSLs during their first 3 years of age, and to test differences in body condition between eastern stock (Southeast Alaska) and western stock (Prince William Sound and Kodiak Island area) animals. Preliminary results show that there is no significant difference in %BF between male ($n=67$) and female ($n=56$) SSLs at 2, 3, 5, 7, 9, 10.5, 14 or 15 months of age (two-way ANOVA; $p=0.207$ $n=123$). Mean %BF increased significantly from $9.1\% \pm 4.2$ to $27.4\% \pm 3.5$ respectively between 2 and 10.5 months of age ($p<0.001$). Two month old pups in the western stock had a significantly higher %BF ($11.3\% \pm 2.8$, $n=13$) than pups sampled in the eastern stock

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