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## **\*\*ASSESSING MATERNAL ENERGETIC ALLOCATION DURING LACTATION FOR THE WEDDELL SEAL USING PHOTOGRAMMETRIC TECHNIQUES**

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Life history theory predicts that allocation of resources to reproduction varies across an individual's life as one's reproductive value changes with age. As individuals reach late life and residual reproductive value declines, they should increase the proportion of energy allocated to reproduction at a cost to future survival or reproduction, this is referred to as terminal investment. Characteristics of Weddell seal life history make this marine-mammal a model organism for investigating terminal investment. Previous research from this population has indicated that pups of older females exhibit a higher growth rate from birth to weaning compared to pups from mothers of prime and young ages. We offer three competing hypotheses that may explain observed increased growth rates of pups born to older mothers and hypothesize that this finding may be a result of terminal allocation. Maternal volume measurements obtained with photogrammetric techniques will be used to explore variation in maternal energetic allocation during lactation. A simple linear regression of maternal volume against maternal measured mass was used to obtain the prediction regression equation. We found a very strong relationship between measured masses and those estimated from our predictive equation (Adjusted R<sup>2</sup>:0.8958, n=31). Estimated mass loss of mothers and apparent mass conversion efficiency from mother to pup over the course of lactation will be used to assess support for competing hypotheses. Results from this study may improve our understanding of life history theory and highlight sources of variation in population vital rates.