

euphausiids m^{-3} , 4.5 h of feeding would be sufficient for the whale to meet its daily energy requirements, and only 1.5 h would be needed at densities of 3×10^4 euphausiids m^{-3} . Deeper feeding dives result in a longer surface-dive cycle time, and consequently, more time spent feeding will be needed to meet the daily energy requirements. For example, the surface-dive cycle time for dives of depths to 81–100 m is 10.1 min with a resultant dive rate of approximately 6 dives h^{-1} . In this situation 12.7 h of foraging could be necessary to gain the daily energy requirements if feeding on patches of density 10×10^3 krill m^{-3} . It is apparent that the distribution of patches in the water column, in addition to patch density, can profoundly influence the rate of energy acquisition.

*Acknowledgments. Funding was from the Island Foundation, the Forest Park Foundation, the Arctic Institute of North America, and private donations. I thank C. Alling, A. Dehelt, L. MacIvor, C. Paulson, M. Rice and J. Rowe for their indispensable assistance in data collection; Data-marine Corp. for use of sonar equipment, and my very special thanks to Dr Harold Edgerton for his generosity, enthusiasm, and encouragement with the camera system. The study was conducted under MMPA permit No 378.

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This paper has shown that target prey depth of the whales can be determined either directly using sonar, or indirectly based upon surface collected ventilation and dive variables. Whales can be followed in their dive using sonar, thus determining not only the depth to which the whale dived, but ascent and descent rates as well. Slight variations in the distribution and abundance of krill could be of major ecological significance due to the profound influence which they exert on the higher trophic levels. With the remote camera I have observed that krill form extremely dense aggregations surrounded by areas of relatively low concentrations. These results explain the low average densities obtained with towed nets. It is apparent that whales feed selectively on these dense patches within the upper 120 m.

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0014-4754/87/040468-04\$1.50 + 0.20/0

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