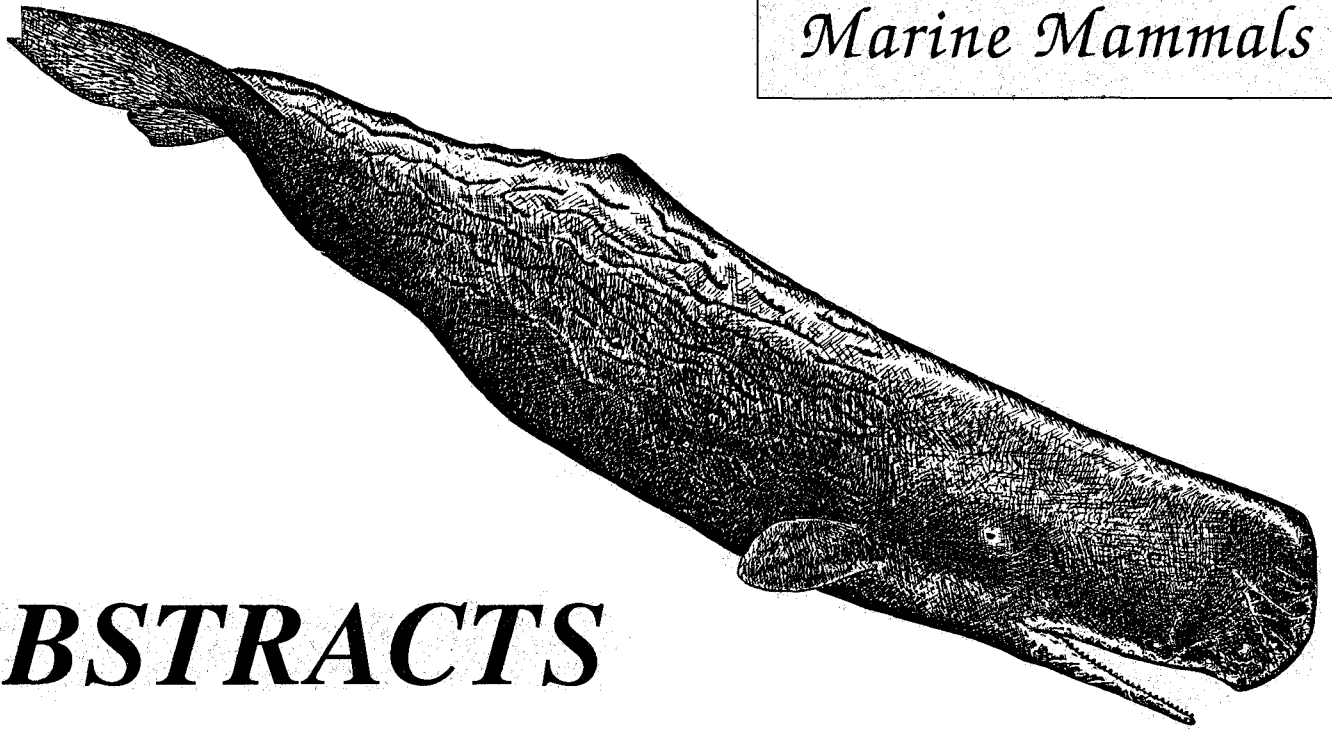


THE RELATIONSHIP BETWEEN BODY CONDITION AND THERMOREGULATORY COSTS IN STELLER SEA LION PUPS
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The energetic cost of thermoregulation in pinnipeds often depends on the thermal characteristics of an insulating layer of blubber. In this study, we examined the quality and quantity of blubber in Steller sea lion pups, and assessed their effect on heat loss and thermal costs. Skinfold thickness (ST, an index of blubber thickness), heat flow, and skin temperature were measured for six different anatomical sites. Data were collected on pups from three islands in Alaska: Marmot (n = 11 pups), Lowry (n = 38) and Chirikof (n = 22) Islands. ST was positively correlated with mass ($r = 0.65$, $n = 71$), where

$\text{Skinfold thickness (mm)} = 0.50(\text{mass in kg}) + 1.75$.
Body mass, regional heat flow, and skin and rectal temperatures were similar for known age pups from Lowry and Chirikof Islands. In comparison, Marmot Island pups had smaller skinfold thicknesses coincident with lower body mass. Insulating quality of the blubber was also lower in these pups. As a result, the thermal energetic costs calculated for Marmot Island pups were higher than values for Steller pups from the other two rookeries.

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ABSTRACTS

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