

profiles allowed us to align the two vibrissae over specific time spans. The underlying smooth profiles were measured discretely, and this masked the precise location of extrema used for alignment. Additionally, measurement error was introduced as the process was discretized. We present a method of randomly generating smooth profile candidates for each of the pairs rather than simply using midpoints of the discretized segments, in order to more realistically represent DF uncertainty when modeling maternal diet using pup data as a surrogate.

**Surrogate information for assessing maternal diet: matching stable isotope profiles of vibrissae from adult Steller sea lion females and their pups.**

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Assessment of the diet and foraging habits of endangered Steller sea lions is key information to consider when making fisheries management decisions in Alaska, particularly for the Aleutian Islands where this species continues to decline in population. While capture and sampling of adults has been difficult, pups are much more accessible. Because pups are born with formed vibrissae (whiskers), the stable isotope profile along the vibrissa provides a record of the isotope composition of nutritional intake from nursing (at the root) as well as a reflection of the mother's diet while the fetal vibrissae grew in utero. In order to model the mother's diet using pup vibrissae, we must first determine discrimination factors (DF) between the pup's and mother's vibrissae profiles and additionally assess whether these factors change during the course of pup development in utero through to parturition. Five matched mother-pup vibrissae pairs were collected at the Lovushki Island rookery in the Kuril Islands, Russia in June 2008. Seasonal oscillations in the isotope profiles along adult female vibrissae were presumed to reflect annual cycles of prey availability. Despite having markedly different growth rates, similar features mirrored in the associated pup's vibrissae

# ABSTRACTS

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