

SUCCESSFUL MOTHERING AMONG ELEPHANT SEALS

Due to size and experience, older female elephant seals are twice as likely to successfully wean a pup. In one study, 3-5 year old females successfully weaned their pups only 38% of the time, whereas, in 6 year old and older females, the figure jumped to 73%. The larger the female the greater her bodily reserves; she can remain longer at the rookery and provide more milk. In fact, young mothers, 3 years of age, only nursed their pups for 24 days, while 9 year old mothers nursed their pups for an average of 29 days. The pups from older mothers are larger and healthier.

Another factor is that older, larger mothers are more dominant. They can obtain the best sites and can better defend those sites and their pups.

Experience also seems to play a part. Mothering skills are learned. Failure to successfully wean a pup one year may be a valuable lesson for next year. Some mothers who have lost a pup gain experience by adopting an orphaned pup. Not all pups separated from their mothers die. In a study by Riedman and Le Boeuf, 5% of the separated pups were reunited with their mothers, 27% were adopted, and the remaining 68% remained orphaned and died.

Young, inexperienced females are most likely to lose a pup, and most often adopt one of the same age as the one they lost. Some females try to steal a pup. Other, "promiscuous" mothers will indiscriminately nurse any pup and may be surrounded by several starving orphans. Less frequently, an "allomother" fosters a pup that is still with its mom. Some pupless mothers will adopt a weaned pup, turning it into a superweaner. If a mother with a pup adopts an orphaned pup, it is a serious mistake, since she cannot produce enough milk to sustain both.

A female that can wait until she is older to give birth for the first time increases her chance of succeeding. Waiting to breed until she is older also improves her longevity, since there is a correlation between early breeding and a shortened life expectancy.

A pup's chance of surviving is also related to the density of females and the topography of the breeding site. In a crowded colony a pup is more likely to be separated or injured. A pup is also more likely to die if it is raised in an area exposed to high tides and surf.

What are the optimal conditions to successfully wean a healthy pup? A mature female, at least 6 years old, that chooses to come ashore on a less crowded beach and one that offers an area to retreat from high water, is most likely to succeed. Experience also improves a female's ability to wean a pup; experience that may have been learned through failure, or enhanced by adopting an orphaned pup.

SOURCES:

Elephant Seals: Population Ecology, Behavior, and Physiology, by Le Boeuf and Laws, Univ of Ca Press.

The Pinniped, by Marianne Riedman, University of California Press, 1990