

Body Posture and Behavior as a Function of Age in Captive Neonatal Beluga Whales (*Delphinapterus leucas*)

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Introduction

The behavioral development of a newborn mammal is critical to its survival and well-being. It is of fundamental importance to fully understand this period in our efforts to gather a complete picture of the natural history of any species.

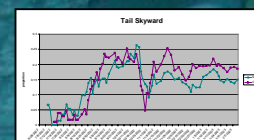
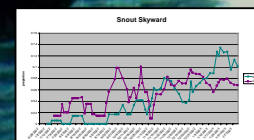
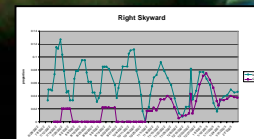
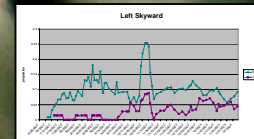
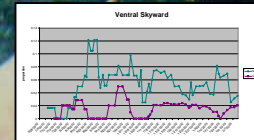
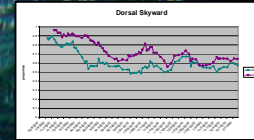
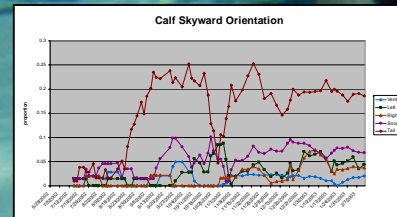
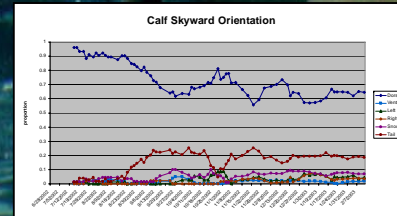
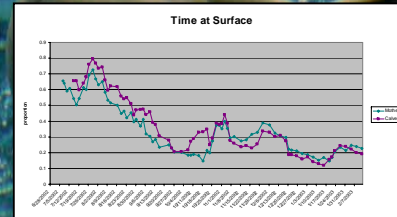
It was the goal of this project to assess changes in the behavior of two beluga calves over their first half-year of life.

Methods

Our subjects were two male beluga whales (*Delphinapterus leucas*) born seven days apart at Marineland of Canada.

They were housed with their mothers in a 10 m by 25 m holding pen comprised of a porous net that divided them from other adult male and female belugas in a much larger (1 million gal) pool.

Our observations were made from videotape recorded 2 hours each morning for the first four months and on a 24-hour basis thereafter. Using instantaneous sampling, conducted every 15 minutes, we simultaneously recorded the body orientation and location (at surface or underwater) of both calves and their respective mothers. We sampled 78 separate days (daylight hours only) spaced out evenly over the calves' first seven months of life.



Results

Immediately after birth, the beluga calves and their mothers spent 70% of their time at the surface, a proportion that steadily declined with age. By the third month of age, both mothers and calves were observed at the surface only about 30% of the time.

Similar age-related changes in body orientation are presented in the panels at left. Immediately after birth, the calves (and their mothers) spent 90% of their time in the "normal" orientation (dorsal side upward). At 6 weeks of age, a decline in that proportion began, with concomitant increases in other orientations. Most notably, the sixth week of age was associated with a marked increase in the frequency with which the whales were observed in a head down-tail up posture.

Discussion

At least three benefits can accrue from the provision of normative data derived in captivity on the development of newborns in any given species.

In the first place, the developmental time course of young animals helps open a window into the natural history and behavioral ecology of a species, in ways that would otherwise be inaccessible from observations in the wild.

The establishment of norms may aid wildlife observers in gauging the age of young animals which they observe.

Such findings can establish landmarks of development against which the staff of Seaquariums can appraise the development of subsequent newborns.

Acknowledgements

We gratefully acknowledge the hospitality and support of John Holer, Dave Elliott, Tom Western, Pete Forrester, and the wonderful staff at Marineland of Canada. This work was supported in part by a grant to Canisius College from the Howard Hughes Medical Institute.

