

Seasonal trends in harbor seal (*Phoca vitulina richardsi*) abundance at Bering Glacier Correlated to local salmon runs?

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A new harbor seal (*Phoca vitulina richardsi*) glacial haulout was identified at the terminus of the Bering Glacier (60° 5' N/143° 30'W) in southcentral Alaska. Approximately 150 seals may be resident at the site year-round based on aerial surveys conducted in July - August of 2001 and every two weeks between May and November of 2002 and 2003. However, a significant seasonal trend in harbor seal abundance was found at Bering Glacier. In all years, the number of seals hauled out began increasing significantly during the last week of July, and by mid-September the number of seals counted increased ten-fold. Non-linear regression with a Poisson distribution was used to model the seasonal trend, taking into account the effects of environmental variables. The model predicted that between 716 and 1149 seals would be hauled out at Bering Glacier



under locally ideal conditions on the date of peak abundance, which the model identified as September 14. Because this estimate represents approximately 3% of the entire Southeast Alaska harbor seal stock, this site should be considered an important seasonal haulout. We hypothesize that harbor seals may enter the Bering Glacier area in late summer in response to seasonally abundant prey resources. Scat samples collected from icebergs in Vitus Lake revealed that in 2002 salmon first

appeared in the diet coincident with increases in our trend counts. After the increasing trend began, 50% of scats contained salmon and other fish species, and 35% contained only salmon. Trend counts for Coho conducted by the Alaska Department of Fish & Game at the Bering River (60 km west) showed that the peak of the Coho run



was within one week of peak harbor seal abundance at Bering Glacier in both 2002 and 2003. The closest major harbor seal haulouts to Bering Glacier are Copper River Delta and Icy Bay (both >100 km away), and therefore long distance movements by harbor seals in this region may not be uncommon in certain seasons.