

## Journal Publications

Gates C.C. and N.C. Larter. **Growth and Dispersal of an Erupting Large Herbivore Population in Northern Canada: The Mackenzie Wood Bison (*Bison bison athabasca*)**. Arctic 43 (3): 231-238.

### ABSTRACT

In 1963, 18 wood bison (*Bison bison athabascue*) were introduced to the Mackenzie Bison Sanctuary. The population has grown at a mean exponential rate of  $r = 0.215 \pm 0.007$ , reaching 1718 bison  $\geq 10$  months of age by April 1987. Analysis of annual population growth revealed a maximum exponential rate of  $r = 0.267$  in 1975, followed by a declining rate, reaching a low value of  $r = 0.103$  in 1987. Selective predation on calves was proposed as a mechanism to explain the declining rate of population growth. The area occupied by the population increased at an exponential rate of  $0.228 \pm 0.017$  km<sup>2</sup>.year<sup>-1</sup>. The dispersal of mature males followed a pattern described as an innate process, while dispersal of females and juveniles exhibited characteristics of pressure-threshold dispersal.