

## A LONGITUDINAL STUDY OF PROSPECT HILL VIRUS PREVALENCE IN MICROTUS POPULATIONS IN MONTANA

Amy J.Kuenzi, Richard J. Douglass, Kevin Hughes, Arlene Alvarado & Amy Skypala,  
Department of Biological Sciences, Montana Tech, Butte, MT 59701

Prospect Hill virus is a strain of hantavirus carried by meadow voles. As yet, no clinical disease has been described for the virus although antibodies to PHV have been found in humans. To improve our understanding of this virus and its potential effects on *Microtus* populations, we conducted studies of population dynamics and PHV antibody prevalence in *Microtus* populations for 11 years on 12 mark-recapture grids in Montana. Monthly numbers of *Microtus* ranged from zero to over eighty on 1 hectare grids. PHV antibody averaged about 11 percent. *Microtus* populations occurred sporadically alternately diapering from grids and then reappearing in high densities. *Microtus* were always sympatric deer mice (*Peromyscus maniculatus*) that carry Sin Nombre virus that can infect humans.

Each transect was run for three consecutive nights. Trapped foxes were transferred to handling bags, manually restrained, morphological data and hair samples collected. Trapping began in November and ended in February during both censuses. Sixty-six townships in 2000/01 census and 91 townships in 2005/06 were surveyed for swift fox. In 2000/01, a total of 1188 trapnights resulted in the capture of 38 different swift fox (31 trapnights/fox or 3.2 foxes/100 trapnights). The total population occupying the Montana study area was estimated at 221 swift foxes. Preliminary results of the 2005-2006 census were presented.