

**CAUSE-SPECIFIC MORTALITY OF CALF ELK
IN THE GARNET MOUNTAIN RANGE, MONTANA^{TWS}**

Jarod D. Raithel, and Daniel H. Pletscher
Wildlife Biology Program, School of Forestry and Conservation
University of Montana
Missoula, MT 59812
jarod_raithel@hotmail.com
pletsch@forestry.umt.edu

Michael J. Thompson
Wildlife Biologist
Montana Department of Fish, Wildlife and Parks
Region 2, 3201 Spurgin Road, Missoula, MT 59804
mthompson@state.mt.us

Recruitment rates of Rocky Mountain elk (*Cervus elaphus*) have been chronically low in recent years and may have progressively declined over the past 2 decades across western Montana. Calf:cow ratios generated from spring classification flights on our study site, Montana Hunting District 292-00, have declined from 41 calves:100 cows in 1988 to 19 calves:100 cows in 2003. In spring of 2002 and 2003, a total of 69 neonatal calf elk \leq 8 days old were captured and instrumented with mortality-sensing radio transmitters that

were attached with ear tags or expandable, break-away collars. In 2002, 17 of 27 radio-marked calves died. In 2003 we have documented just three mortalities among 42 calves radio-marked this year. Sources of mortality include: black bear ($n = 8$), cougar ($n = 3$), undetermined predator ($n = 2$), malnutrition ($n = 2$), abandonment ($n = 2$), coyote ($n = 1$), human hunter ($n = 1$), and disease/drowning ($n = 1$). Estimated mean calf birth date was 29-30 May in both years. The sex ratio of calves captured was 11 male:15 female in 2002 and 23 male:17 female in 2003. Birth weights for calves were estimated by plotting a linear regression of estimated calf elk age at capture versus calf elk capture weight for each sex. Estimated mean male calf birth weight in 2003 was 1.6 kg greater than that of 2002, and estimated mean female calf birth weight in 2003 was 0.7 kg greater than that of 2002; however 95-percent confidence intervals about these estimates overlapped. This study is planned to continue through 2006.