

DEMOGRAPHY AND GENETIC STRUCTURE OF A RECOVERING GRIZZLY BEAR POPULATION

Katherine C. Kendall, U. S. Geological Survey–Northern Rocky Mountain Science Center, Glacier Field Station, Glacier National Park, West Glacier, Montana 59936

Jeffrey B. Stetz and Amy C. Macleod, University of Montana Cooperative Ecosystem Studies Unit, Glacier Field Station, Glacier National Park, West Glacier, Montana 59936

John B. Boulanger, Integrated Ecological Research, Nelson, BC V1L 4L4, Canada

David Paetkau, Wildlife Genetics International, Nelson, BC V1L 5P9, Canada

Gary C. White, Department of Fish, Wildlife and Conservation Biology, Colorado State University, Fort Collins, Colorado 80523

The threatened grizzly bear (*Ursus arctos*) population in northwestern Montana has been managed for recovery since 1975, yet no rigorous data were available to monitor program success. We assessed population status using data from one of the world's largest noninvasive genetic sampling efforts and 33-years of physical captures. Our population estimate, $N = 765$ ($CV = 3.8\%$) was double the working estimate. Based on our results, the recent human-caused mortality rate approached a sustainable 4 percent although the high proportion of female mortalities raises concern. Genetic interchange has recently increased in areas exhibiting generations of low gene flow. This study illustrates the power of molecular techniques to rapidly assess populations at landscape scales and provide detailed demographic and genetic data needed to guide and evaluate recovery efforts.