Telemetry Studies of Mountain Ungulates in the Greater Yellowstone Area: A Progress Report

Robert A. Garrott*, Fish and Wildlife Ecology and Management Program, Ecology Department, Montana State University, Bozeman, Montana 59717

P. J. White, Yellowstone Center for Resources, Yellowstone National Park, Wyoming 82190

Jay J. Rotella, Fish and Wildlife Ecology and Management Program, Ecology Department, Montana State University, Bozeman, Montana 59717

We report on the progress that has been made on initiating long-term telemetry studies of mountain goats (Oreamnos *americanus*) and bighorn sheep (*Ovis Canadensis*) in the GYA to better understand spatial ecology, demography, potential competition, and disease ecology. Six study areas representing a variety of ecological settings have been established throughout the GYA that include areas where bighorn sheep and mountain goats are sympatric as well as where each species exists in the absence of the other. We are employing a novel dual radio collar strategy and have successfully evaluated the use of drop net systems to capture groups of bighorn attracted to bait as an economical alternative to standard helicopter-based single animal capture techniques. Chemical immobilization of bighorn using BAM as an alternative to carfentanil was also tested and evaluated. A break-down Clover trap was designed for ease of transportation via horse for backcountry trapping and summer salt baiting for bighorn sheep and mountain goats was evaluated. We have initiated the first systematic disease sampling of mountain goats in the GYA using the standard protocols employed for bighorn sheep health assessments to evaluate the potential for mountain goats to influence the disease ecology of bighorn sheep in areas where they are sympatric. The research goals, strategies, and methodologies developed, tested, and employed on the collaborative GYA mountain ungulate research program are similar to those proposed for a long-term bighorn sheep research program in Montana.