
POPULATION MONITORING AND MODELING TO ENABLE AN ADAPTIVE MANAGEMENT STRATEGY FOR MOUNTAIN LIONS IN MONTANA

Jay Kolbe*, Montana Fish Wildlife and Parks, White Sulphur Springs

Kelly Proffitt, Montana Fish Wildlife and Parks, Bozeman

Josh Nowak, College of Forestry and Conservation, University of Montana, Missoula

Hugh Robinson, Panthera Landscape Analysis Lab, University of Montana, Missoula

Historically, managing harvested mountain lion populations was confounded by the lack of a method to affordably, accurately, and repeatedly estimate a population's size, make rigorous predictions about the effect of future harvest prescriptions, and monitor population trends over time. Managers were unable to fully implement an adaptive mountain lion harvest management program because they lacked the necessary objective monitoring and modeling information. Disagreement about the past, and potential, effects of management decisions led to conflict among stakeholders and with FWP. Montana has now developed a draft mountain lion Management Strategy that will allow FWP to actively monitor statewide mountain lion populations using new genetic spatial capture-recapture field techniques and to routinely extrapolate those local estimates across discrete mountain lion ecoregions using a statistical resource selection function. Managers will then be able to input these population estimates, along with lion demographic parameters (described by regional field research), into a web-based mountain lion integrated population model in order to predict the likely effect of future harvest prescriptions on managed lions across the State. These new monitoring and modeling methods will enable FWP to fully implement an adaptive harvest management program through which population objectives are set, management alternatives are objectively evaluated, a preferred harvest prescription is applied, the effect of that harvest is directly monitored over time, and management is adjusted based on new information and changing objectives. FWP believes that this strategy will help reduce contention among stakeholders, optimize harvest and pursuit opportunity, reduce conflicts, and ensure that robust lion populations are conserved across their Montana habitats.