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Note

Integrating Motion-Detection Cameras and Hair Snags for Wolverine Identification

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ABSTRACT We developed an integrated system for photographing a wolverine's (*Gulo gulo*) ventral pattern while concurrently collecting hair for microsatellite DNA genotyping. Our objectives were to 1) test the system on a wild population of wolverines using an array of camera and hair-snag (C&H) stations in forested habitat where wolverines were known to occur, 2) validate our ability to determine identity (ID) and sex from photographs by comparing photographic data with that from DNA, and 3) encourage researchers and managers to test the system in different wolverine populations and habitats and improve the system design. Of the 18 individuals (10 M, 8 F) for which we obtained genotypes over the 2 years of our study, there was a 100% match between photographs and DNA for both ID and sex. The integrated system made it possible to reduce cost of DNA analysis by >74%. Integrating motion-detection cameras and hair snags provides a cost-effective technique for wildlife managers to monitor wolverine populations in remote habitats and obtain information on important population parameters such as density, survival, productivity, and effective population size.

KEY WORDS DNA, *Gulo gulo*, hair snagging, identification, microsatellite genotyping, motion-detection cameras, photographs, Southeast Alaska, wolverine.