Patterns and Rates of Wolverine Movement Using GPS Technology in Glacier National Park, Montana

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Documentation of wolverine presence in remote areas has been carried out using winter track surveys. Description of wolverine travel patterns and rates of travel have been based on anecdotal evidence at best. During the past 4 yrs we captured and instrumented 22 wolverines in Glacier National Park. Of these, five individuals have successfully carried Lotek store-on-board GPS collars for periods of up to several months, and have provided nearly 10,000 data points. A high recapture rate provided an opportunity to reinstrument individuals with varying GPS acquisition rates within a single trapping season. Initial GPS location data were programmed for a 4-hr cadence, but wolverine movement rates at this interval did not provide adequate information on travel paths and patterns and indicated a need for a finer scale fix rate. We varied the frequency of GPS fix attempts at 4 hours, 2 hours, 30 min, and 5 min as we recaptured study animals. Subsequently most data sets were programmed to collect GPS locations at 5-min intervals, 24 hrs/day, 7 days/wk. Analysis of these fine-scale data reveals travel paths and corridors, as well as rates and patterns of travel for wolverines astride the Continental Divide in alpine and subalpine sections of Glacier National Park.